Quick Start

PlantPAx
Process Automation System

PlantPAx System Application Templates

System Release 3.0

Allen-Bradley • Rockwell Software

Rockwell Automation

Important User Information

Read this document and the documents listed in the additional resources section about installation, configuration, and operation of this equipment before you install, configure, operate, or maintain this product. Users are required to familiarize themselves with installation and wiring instructions in addition to requirements of all applicable codes, laws, and standards.

Activities including installation, adjustments, putting into service, use, assembly, disassembly, and maintenance are required to be carried out by suitably trained personnel in accordance with applicable code of practice.

If this equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

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	WARNING: Identifies information about practices or circumstances that can cause an explosion in a hazardous environment, which may lead to personal injury or death, property damage, or economic loss.
	ATTENTION: Identifies information about practices or circumstances that can lead to personal injury or death, property damage, or economic loss. Attentions help you identify a hazard, avoid a hazard, and recognize the consequence.
IMPORTANT	Identifies information that is critical for successful application and understanding of the product.

Labels may also be on or inside the equipment to provide specific precautions.

	SHOCK HAZARD: Labels may be on or inside the equipment, for example, a drive or motor, to alert people that dangerous voltage may be present.
	BURN HAZARD: Labels may be on or inside the equipment, for example, a drive or motor, to alert people that surfaces may reach dangerous temperatures.
	ARC FLASH HAZARD: Labels may be on or inside the equipment, for example, a motor control center, to alert people to potential Arc Flash. Arc Flash will cause severe injury or death. Wear proper Personal Protective Equipment (PPE). Follow ALL Regulatory requirements for safe work practices and for Personal Protective Equipment (PPE).

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About This Publication

The purpose of this quick start is to describe how to apply application templates to start development of your PlantPAx™ Process Automation System. Basic procedures explain how to configure pre-built controller and human-machine interface (HMI) templates to provide an application framework with these goals:

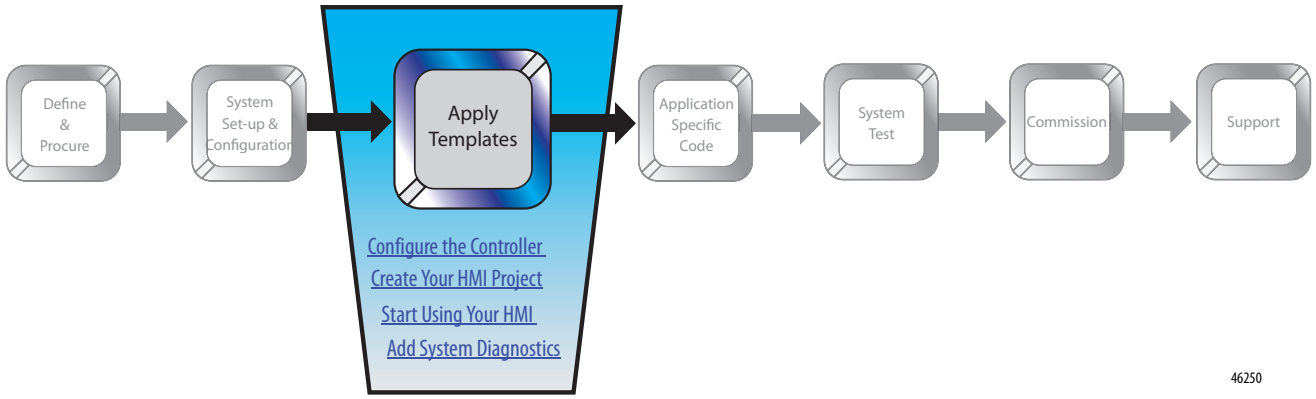
- Provides a consistent starting point for system implementation
- Promotes a standardized application framework for control systems and process skids to provide a unified system experience
- Reduces implementation risks and promotes application practices for optimal system performance

IMPORTANT Before using this guide, you must have an installed system available to follow the procedures in this guide. You also need to make sure your system is properly sized by using the PlantPAx System Estimator (PSE). The PSE is part of the Integrated Architecture™ Builder (IAB) tools.

For more information on system resources, such as Define and Procure and System Set-up, see the Additional Resources on page 8.

This guide walks you through the tasks for applying the templates that provide a starting point for your application specific code. In Figure 1, the lesson goals are underlined per chapter.

Figure 1 - Quick Start Manual Scope



The application templates described in this guide are downloaded from the Knowledgebase Answer ID 62682 at http://www.rockwellautomation.custhelp.com. Typically, you apply application templates on your Process Automation System Server (PASS) and HMI visualization client by using the Engineering Workstation (EWS). Once the templates are applied, you run your application on the Operator Workstation (OWS) to review results.

Before Using This Publication

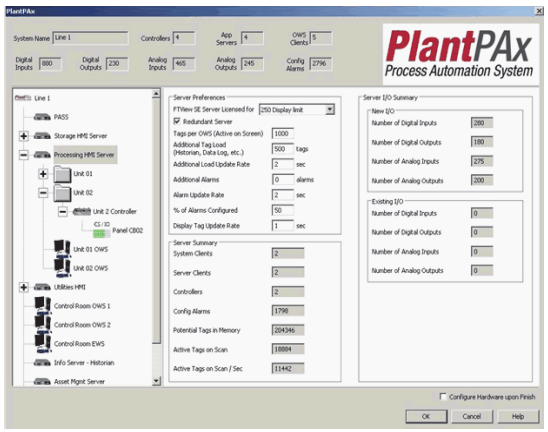
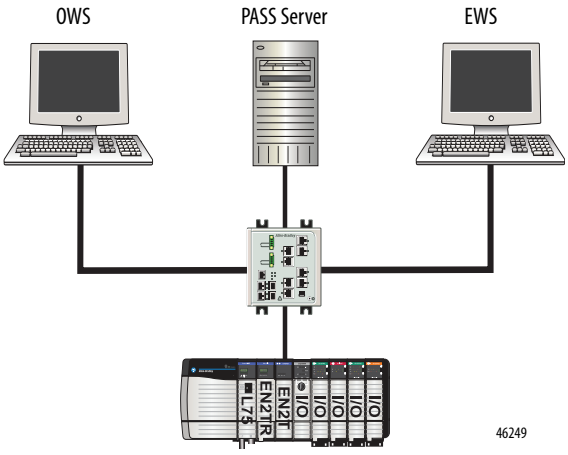
You can use the tasks described in this publication only after first completing some prerequisite tasks. For example, you must have your workstations and servers installed and communicating on a network. Table 1 describes the prerequisites.

The procedures in this quick start use the following software versions:

- RSLogix™ 5000 software, version 20.*x*
- FactoryTalk® View software, version 7.0.

IMPORTANT We suggest that you refer to the PlantPAx Process Automation System Reference Manual, publication PROCES-RM001, for system guidelines during and after you use this guide. For example, the reference manual documents recommended task configurations applied by the procedures contained within this guide. There also are recommended rules to follow when creating your specific configuration after completing this quick start.

Table 1 - Required Tasks to Complete before Using This Quick Start

Objective	Task Descriptions
Define the system	• Collect requirements. For example, I/O counts, redundancy, simplex controllers, and so forth • Choose the controller family, I/O family, network topology. For example, EtherNet/IP, Ring or Star, ControlLogix®, CompactLogix™ • Size your system based on requirements • Create system layout by assigning slots and IP addresses, chassis locations, I/O counts, and so forth **IMPORTANT:** The system must be defined and sized properly by using the PSE (shown at right) that is part of the IAB tool. The worksheet that is included with this guide (see page 69) cannot determine sizing requirements but is a helpful tool for defining information that you need for template initiation. To size a system, use the PSE. 
Install the system	• Set up infrastructure. For example, install computer hardware, wire networks, configure network switches • Install servers and workstations (PASS, OWS, EWS) If using virtual image templates, see the Virtual Image Templates User Manual, publication 9528-UM001 or Configure the operating system and NIC cards, join a domain, and install software • Set up the FactoryTalk Directory (FTD) server • Install controller hardware (chassis, power supply, modules) • Test communication. For example, ping or use RSWho to locate each server, workstation, and controller **IMPORTANT:** The FTD location must be specified for each workstation and server on your system. 

IMPORTANT It's possible to follow the tasks in this quick start without the entire production environment. However, a minimal set up is required, including PASS servers and controllers.

Before You Begin

The beginning of each chapter contains the following information. Read these sections carefully before beginning work in each chapter:

- **Before You Begin** – This section lists the steps that must be completed and decisions that must be made before starting that chapter. This section defines the minimum amount of preparation required before completing the current chapter.
- **What You Need** – This section lists the tools that are required to complete the steps in the current chapter. This includes, but is not limited to, hardware and software.
- **Follow These Steps** – This illustrates the steps in the current chapter and identifies which steps are required to complete the examples by using the section.

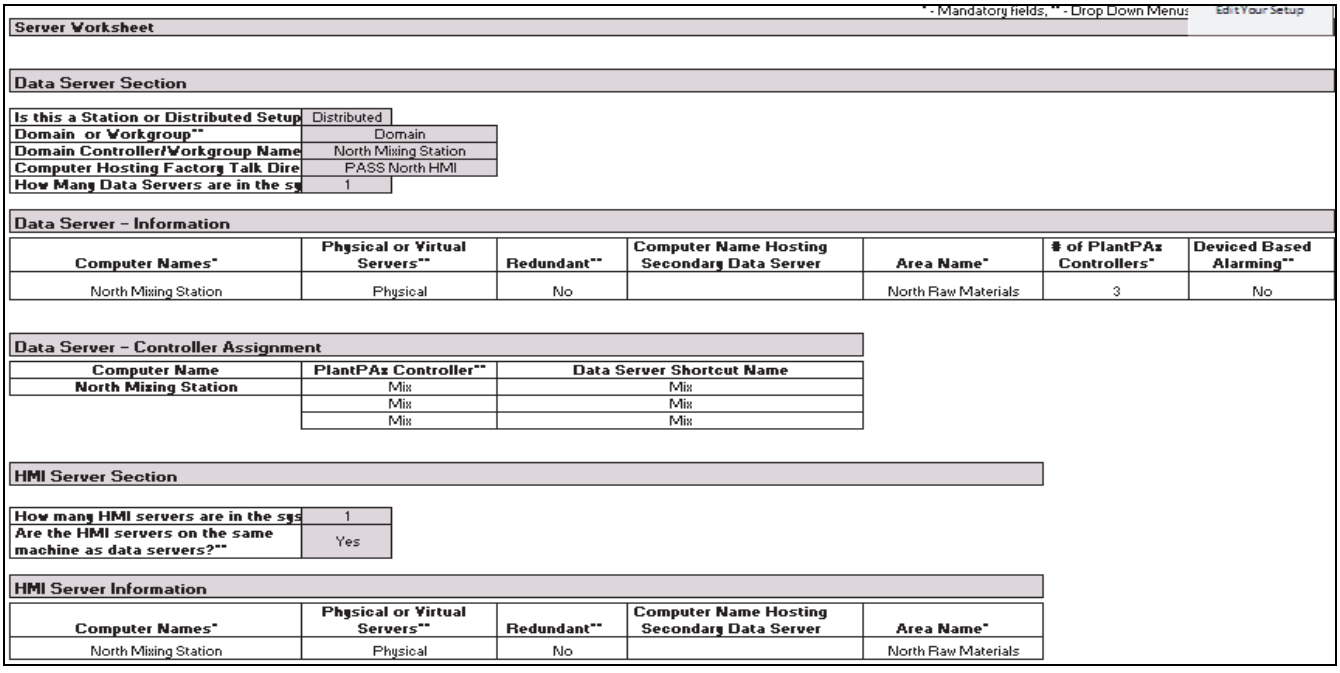
PlantPAx Quick Start Worksheet

The PlantPAx Quick Start Worksheet can help you determine the information required for following the procedures in this guide. The worksheet is a Microsoft Excel macro-enabled workbook (.xlsm). As information is entered, additional entry fields are dynamically created to collect more information.

IMPORTANT You do **not** have to use the worksheet with the procedures in this quick start.

Figure 2 shows an example of a portion of the completed worksheet. See Access the Quick Start Worksheet on page 69.

Figure 2 - Quick Start Worksheet Example



* - Mandatory Fields, ** - Drop Down Menus Edit Your Setup

Server Worksheet

Data Server Section

Is this a Station or Distributed Setup	Distributed
Domain or Workgroup**	Domain
Domain Controller/Workgroup Name	North Mixing Station
Computer Hosting Factory Talk Dire	PASS North HMI
How Many Data Servers are in the sy	1

Data Server – Information

Computer Names*	Physical or Virtual Servers**	Redundant**	Computer Name Hosting Secondary Data Server	Area Name*	# of PlantPAx Controllers*	Deviced Based Alarming**
North Mixing Station	Physical	No		North Raw Materials	3	No

Data Server – Controller Assignment

Computer Name	PlantPAx Controller**	Data Server Shortcut Name
North Mixing Station	Mix	Mix
	Mix	Mix
	Mix	Mix

HMI Server Section

How many HMI servers are in the sys	1
Are the HMI servers on the same machine as data servers?**	Yes

HMI Server Information

Computer Names*	Physical or Virtual Servers**	Redundant**	Computer Name Hosting Secondary Data Server	Area Name*
North Mixing Station	Physical	No		North Raw Materials

Additional Resources

These documents contain additional information concerning related products from Rockwell Automation.

Resource	Description
Define and Procure	
PlantPAx Process Automation System Selection Guide, publication PROCES-SG001	Provides information to assist with equipment procurement for your PlantPAx system.
1756 ControlLogix Controllers Technical Data, publication 1756-TD001	Contains specifications for ControlLogix controllers.
Virtualization for Process Automation Systems, publication PROCES-WP007	Explains and illustrates virtual servers, topologies, and PlantPAx system recommendations.
System Setup and Configuration	
PlantPAx Process Automation System Reference Manual, publication PROCES-RM001	Provides characterized recommendations for implementing your PlantPAx system.
Virtual Image Templates User Manual, publication 9528-UM001	Provides catalog numbers and details for using virtual image templates for setting up virtual machines.
FactoryTalk View Site Edition (SE) Installation Guide, publication VIEWSE-IN003	Provides 'how to' tasks for installing and deploying HMI applications that can involve multiple users and servers, distributed over a network.
FactoryTalk Alarms and Events System Configuration Guide, publication FTAE-RM001	Provides details on how to install, configure, and use FactoryTalk Alarms and Events services as part of a FactoryTalk-enabled automation system.
FactoryTalk AssetCentre Installation Guide, publication FTAC-IN005	Provides installation instructions for monitoring your factory automation system.
FactoryTalk Batch Installation Guide, publication BATCH-IN011	Provides information and procedures for installing FactoryTalk Batch software.
ControlLogix System User Manual, publication 1756-UM001	Explains how to use traditional and extreme environment ControlLogix controllers.
ControlLogix Enhanced Redundancy System User Manual, publication 1756-UM535	Provides information on the installation and configuration for an enhanced redundancy controller system for greater availability.
Ethernet-to-the-Factory 1.2 Design and Implementation Guide, publication ENET-TD001	Provides collaborative design guidelines based on the Cisco Ethernet-to-the-Factory solution and the Rockwell Automation® Integrated Architecture solution.
ControlLogix and CompactLogix 5370 Segmentation Methods for Plant-wide/Site-wide Networks with OEM Convergence-ready Solutions, publication ENET-AT004	Highlights the design considerations of various network segmentation methodologies to assist plant engineers with managing their industrial automation and control system (IACS) traffic flow, and OEMs to develop convergence-ready solutions to help simplify integration.
Application Specific Code	
Logix5000 Controllers Common Procedures Programming Manual, publication 1756-PM001	Provides links to a collection of programming manuals that describe how you can use procedures that are common to all Logix5000™ controller projects.
Logix5000 Controllers General Instructions Reference Manual, publication 1756-RM003	Provides programming controller applications by using relay ladder instructions.
Logix5000 Controllers Advanced Process Control and Drives Instructions Reference Manual, publication 1756-RM006	Provides details on process control and drives instructions.
PlantPAx Library of Process Objects, publication PROCES-RM002	Provides general considerations for the PlantPAx system library of process objects.
Apply Templates	
PlantPAx Library of Logix Diagnostic Objects, publication PROCES-RM003	Provides Add-On Instructions for monitoring and diagnostic information of Logix controllers.
FactoryTalk View SE Edition User Manual, publication VIEWSE-UM006	Provides details on how to use this software package for developing and running human-machine interface (HMI) applications that can involve multiple users and servers, distributed over a network.

You can view or download publications at http:/www.rockwellautomation.com/literature/. To order paper copies of technical documentation, contact your local Allen-Bradley distributor or Rockwell Automation sales representative.

Configure the Controller Application

In this chapter, you learn how to configure controller templates that aid consistent controller implementation, including the use of periodic tasks and setting appropriate task priorities. You complete the following tasks:

- Download the controller templates based on system requirements
- Apply the template to your controller
- Configure EtherNet/IP communication modules for the controller
- Configure I/O modules
- Add HART modules with diagnostic capability, if applicable
- Add remote I/O chassis connections

The described tasks are to be repeated for each controller that is being configured within your system.

Before You Begin

You must complete these tasks before using this chapter:

- Prerequisites listed on page 6
- Information needed per controller:
  - Controller names and types, including if redundancy is to be used
  - Controller task rates for the application based on tasks used in sizing calculations in the PSE
  - Network adapter IP addresses
  - Local and remote I/O rack configuration

What You Need

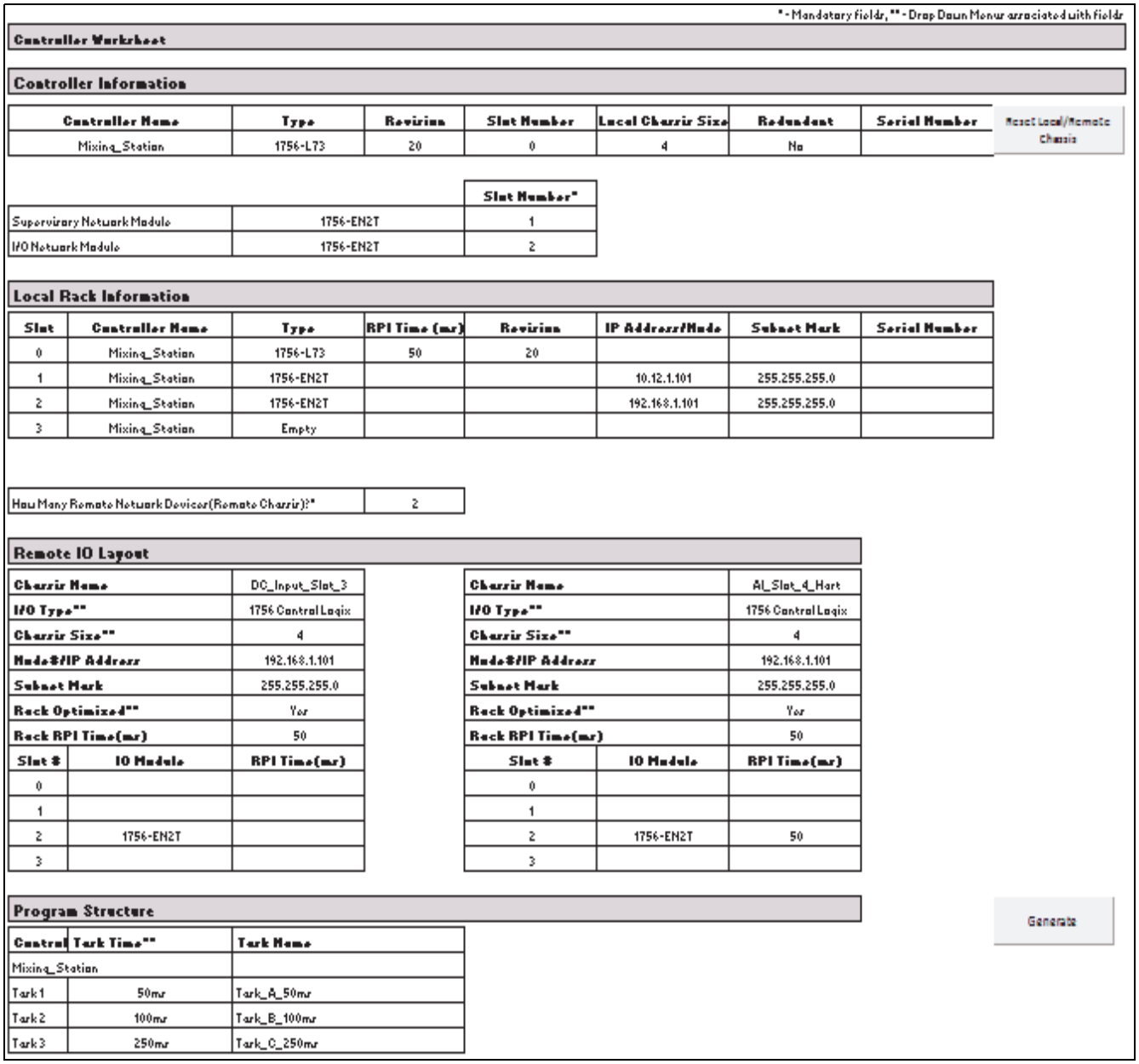
You have RSLogix 5000 software installed and able to communicate with the controllers. If this is a virtual environment, the virtual image templates are deployed.

Figure 3 shows an example of the information required for this chapter based on a sample project using the PlantPAx Quick Start Worksheet. The worksheet is a useful aid in completing tasks in this chapter. The controller sections of the worksheet include the following:

- Basic controller information, such as the controller name, firmware revision, and slot number
- Local rack information
- Remote I/O layout
- Controller task rates

TIP The PlantPAx Quick Start Worksheet is not the same tool as the PSE, which sizes an application based on system requirements. The worksheet merely documents pre-determined system elements defined by the PSE.

Figure 3 - Example of the Controller Worksheet Section



* - Mandatory fields, ** - Drop Down Menus associated with fields

Controller Worksheet

Controller Information

Controller Name	Type	Revision	Slot Number	Local Chassis Size	Redundant	Serial Number
Mixing_Station	1756-L73	20	0	4	No	

Reset Local/Remote Chassis

		Slot Number*
Supervisory Network Module	1756-EN2T	1
I/O Network Module	1756-EN2T	2

Local Rack Information

Slot	Controller Name	Type	RPI Time (ms)	Revision	IP Address/Node	Subnet Mask	Serial Number
0	Mixing_Station	1756-L73	50	20			
1	Mixing_Station	1756-EN2T			10.12.1.101	255.255.255.0	
2	Mixing_Station	1756-EN2T			192.168.1.101	255.255.255.0	
3	Mixing_Station	Empty					

How Many Remote Network Devices (Remote Chassis)*	2

Remote IO Layout

Chassis Name	DC_Input_Slot_3
I/O Type**	1756 ControlLogix
Chassis Size**	4
Node#/IP Address	192.168.1.101
Subnet Mask	255.255.255.0
Rack Optimized**	Yes
Rack RPI Time(ms)	50

Slot #	IO Module	RPI Time(ms)
0		
1		
2	1756-EN2T	
3		

Chassis Name	AI_Slot_4_Hart
I/O Type**	1756 ControlLogix
Chassis Size**	4
Node#/IP Address	192.168.1.101
Subnet Mask	255.255.255.0
Rack Optimized**	Yes
Rack RPI Time(ms)	50

Slot #	IO Module	RPI Time(ms)
0		
1		
2	1756-EN2T	50
3		

Program Structure

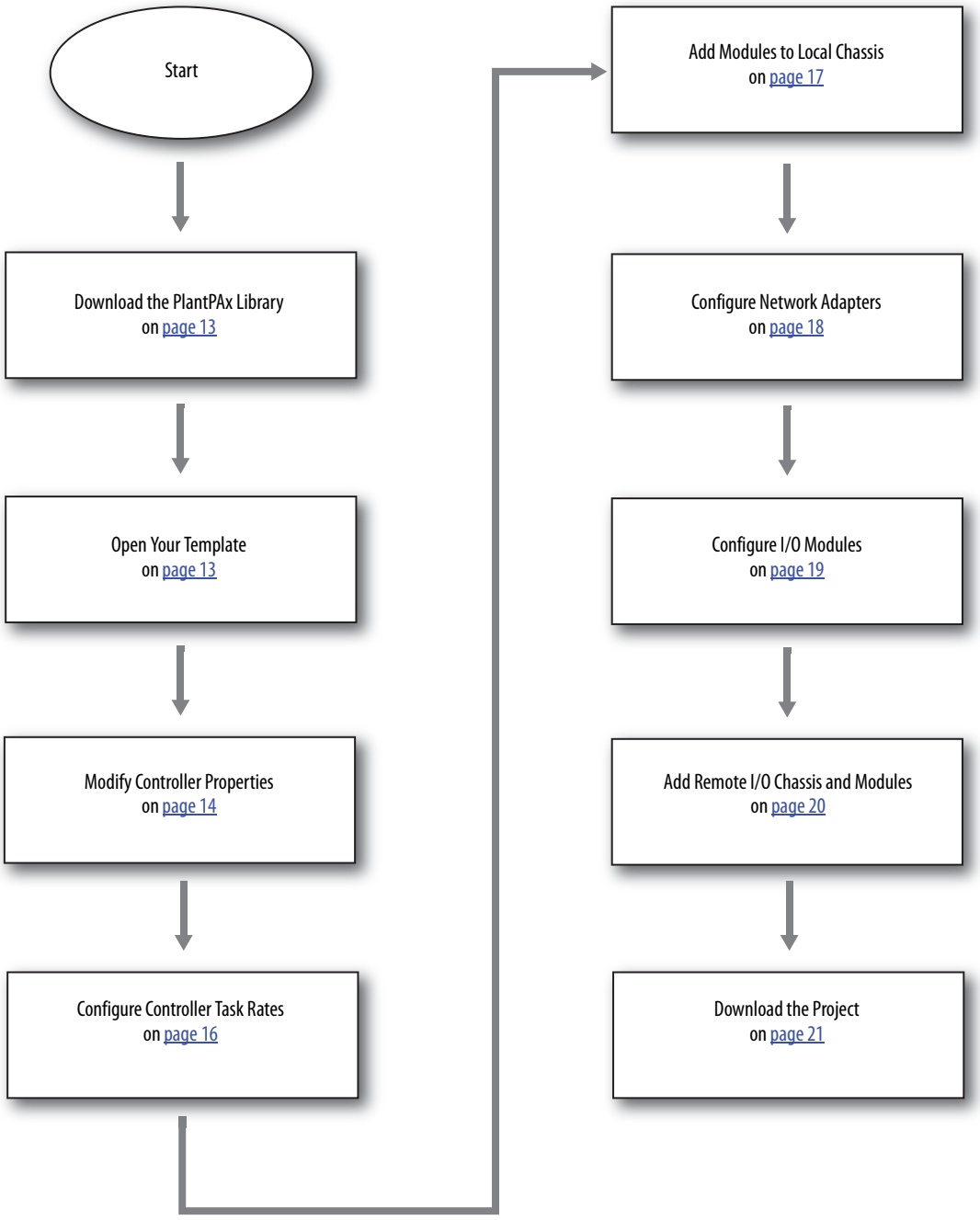
Control	Task Time**	Task Name
Mixing_Station		
Task1	50ms	Task_A_50ms
Task2	100ms	Task_B_100ms
Task3	250ms	Task_C_250ms

Generate

Follow These Steps

The following tasks outlined below describe how to configure your template with a Logix5000 controller. You could already be familiar with many of these tasks, depending on your knowledge of Logix controllers. However, we suggest that you follow these steps to set up your controller for optimal performance of your PlantPAx system.

The procedures in this chapter have to be completed for **each controller** in your project.



Controller Template Overview

Controller templates provide the necessary task configurations that are required for the PlantPAx system. Controller template options also are provided with pre-loaded PlantPAx Library content if the PlantPAx Library is to be used. Library content definitions use controller memory, so use the guidance in Table 2 when selecting the appropriate template for your application.

IMPORTANT Controller templates are distributed with the PlantPAx Library of Process Objects. To download the templates, see Knowledgebase Answer ID 62682 at https://www.rockwellautomation.custhelp.com.

For each controller, you must choose one of three templates to begin system configuration. Table 2 and Table 3 show the templates that are recommended (denoted by 'X') based on the selected controller.

Table 2 - PlantPAx Controller Templates and ControlLogix Controllers

	Simplex Controllers					Redundant Controllers		
	1756-L71	1756-L72	1756-L73	1756-L74	1756-L75	1756-L73	1756-L74	1756-L75
User memory	2 MB	4 MB	8 MB	16 MB	32 MB	8 MB	16 MB	32 MB
No library	X	X	X	X	X	X	X	X
Basic library(1)	X	X	X	X	X	X	X	X
All library(2)		X	X	X	X		X	X

(1) Basic library template is approximately 0.4 MB.

(2) All library template is approximately 1.2 MB.

Table 3 - PlantPAx Controller Templates and CompactLogix Controllers

	1769-L24ER-QBFC1B	1769-L33ER
User memory	0.75 MB	2 MB
No library	X	X
Basic library(1)	X	X
All library(2)		

(1) Basic library template is approximately 0.4 MB.

(2) All library template is approximately 1.2 MB.

Table 4 - Controller Template Descriptions

Template	Name(1)	Description
No library	RSL5k_18_Template_PlantPAx_noLib.acd	No PlantPAx Library of Process Objects.
Basic library	RSL5k_v18_Template_PlantPAxLib_3_0_**00**_basic.acd(2)	PlantPAx Library of Process Objects, includes diagnostics and the following Process Add-On Instructions: P_AIn, P_Alarm, P_AOut, P_DIn, P_Gate, P_DOut, P_Intlk, P_Mode, P_Motor, P_Perm, P_Reset, P_ValveSO, P_VSD, P_PIDE, T_ADD, T_Clock, T_DST, T_Valid.
All library	RSL5k_18_Template_PlantPAxLib_3_0_**00**_all.acd	Complete PlantPAx Library of Process Objects.

(1) PlantPAx Library 3.0 supports RSLogix 5000 software version 18 and later. Templates are provided with software version 18 so they can be used in any later supported version of RSLogix 5000.

(2) The service release number (boldfaced) can change as service revisions are created.

Download the PlantPAx Library

Follow these steps to download a controller template that is included in the PlantPAx Library of Process Objects.

1. Open the Knowledgebase Answer ID 62682 at http://www.rockwellautomation.custhelp.com.
2. Click the download link to access the zip files in the PlantPAx Library of Process Objects.
3. Select the V3.0 zip file and download the files to a folder.

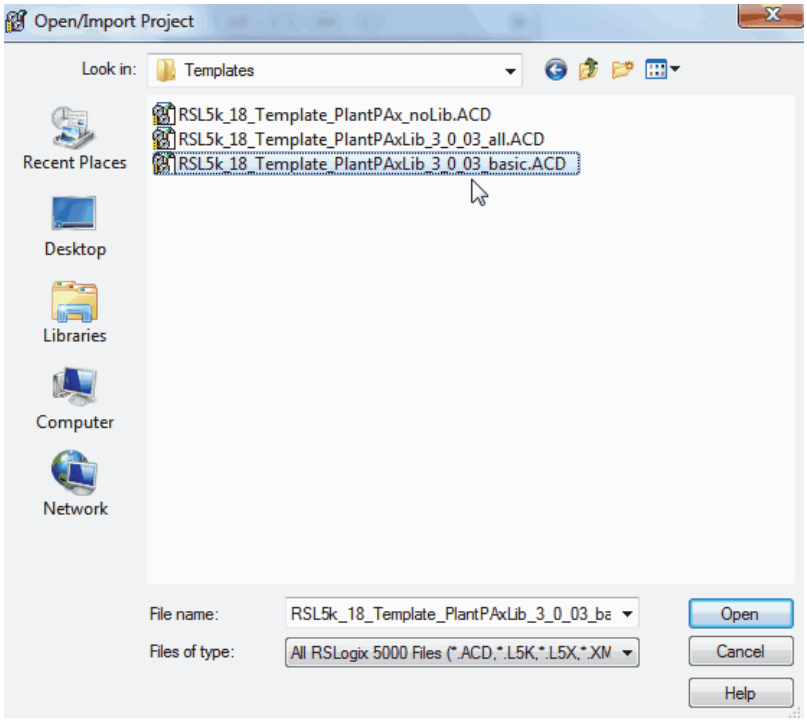
   You will need to access these Library files again so place the folder in a convenient location.
4. Unzip the files to your folder.

TIP The controller templates described in Table 4 are distributed with the Library in a folder titled, Templates.

Open Your Template

Follow these steps to open the controller template that is appropriate for your target controller.

1. Open RSLogix 5000 software.
2. From the File menu, choose Open.
3. From the Look in pull-down menu, browse to the Templates folder where the downloaded PlantPAx Library files are stored.



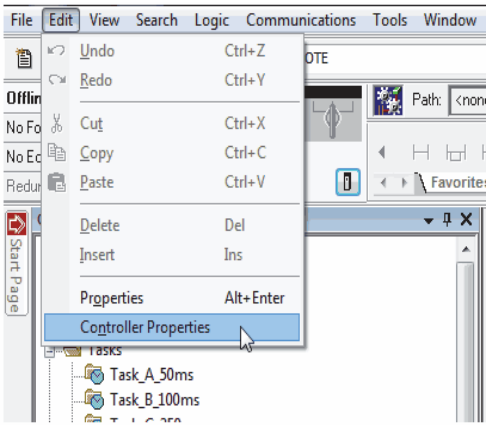
4. Select the appropriate controller template and click Open to begin applying the template to the target controller.

TIP If you do not have RSLogix 5000 software version 18 installed, you will be prompted to change the firmware revision upon opening the template. Follow steps 4…7 on page 15.

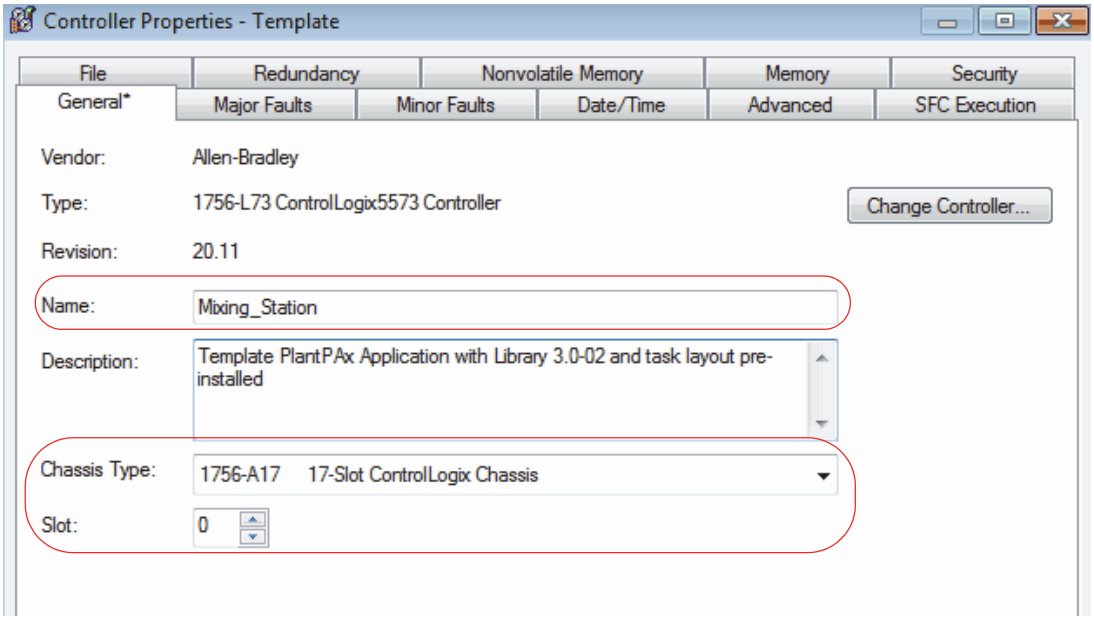
Modify Controller Properties

Follow these steps to modify the controller properties to associate the template to the target controller.

1. From the Edit menu, choose Controller Properties.

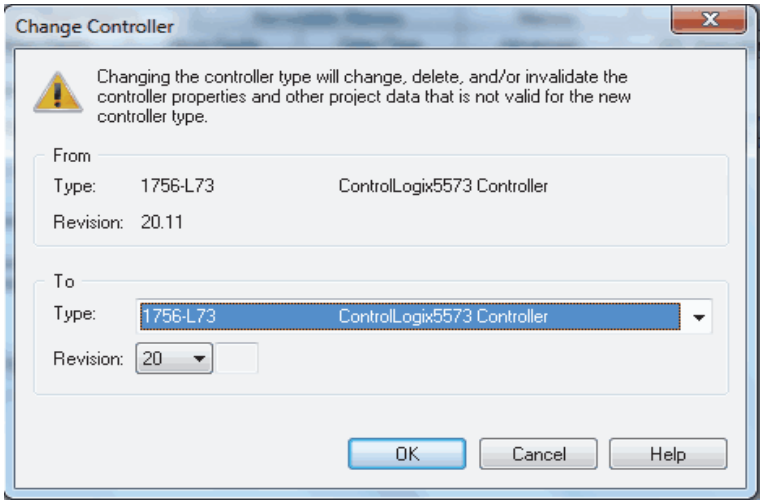


2. On the Controller Properties dialog box, type the name of the controller, slot number, and chassis type for the target controller.



3. Click Change Controller **if** your controller is not the type or firmware revision shown. Otherwise, skip to step 8.

4. From the Type pull-down menu, choose a controller


Change Controller
Changing the controller type will change, delete, and/or invalidate the controller properties and other project data that is not valid for the new controller type.
From
Type: 1756-L73 ControlLogix5573 Controller
Revision: 20.11
To
Type: 1756-L73 ControlLogix5573 Controller
Revision: 20
OK
Cancel
Help

IMPORTANT Refer to Table 2 on page 12 to make sure the controller has enough memory for the selected template.

5. From the Revision pull-down menu, choose your firmware revision.

IMPORTANT The revision number for the firmware must match the version level of the software being used. For PlantPAx system release 3.0, select revision 20.

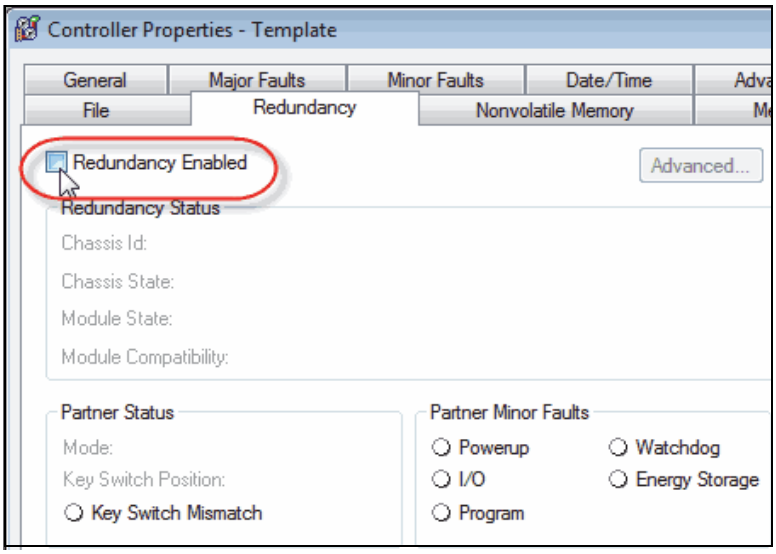
If you are using redundancy (see step 8), we recommend you verify the software that you are using supports redundancy.

6. Click OK.

   A dialog box appears with a warning if the controller type or revision has changed.

7. Click Yes.

8. If the target controller is redundant, click the Redundancy tab and check the Redundancy Enabled checkbox. Otherwise, skip this step.



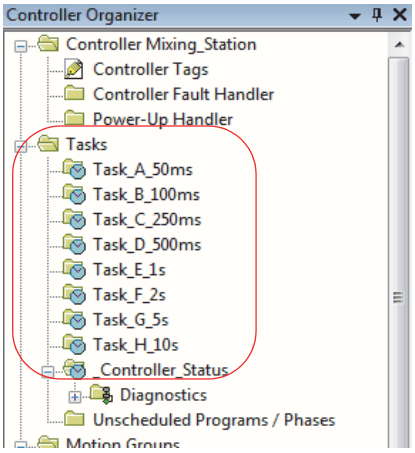
9. Click OK to save your controller settings.

Configure Controller Task Rates

The controller template contains nine predefined periodic tasks, eight of these named Task A...H. There is a separate periodic task named Controller Status, which is used to collect system diagnostics, for example, by using the L_CPU Add-On Instruction.

Each task is set to execute at a defined time interval from 50 ms...10 s, with faster tasks getting higher priority.

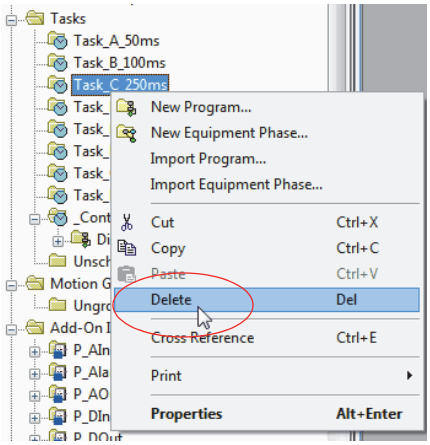
Best practice is for your task setup to match the execution rates used during system sizing, with unused tasks being deleted or inhibited.



IMPORTANT We recommend that you use a minimal number of periodic tasks to provide required execution rates. A controller is typically configured with four periodic tasks: fast, medium, slow, and a dedicated task for diagnostics. For details, see Task Configuration and CPU Utilization in the PlantPAx Process Automation System Reference Manual, publication PROCES-RM001.

As stated above, there is the possibility that not all of the tasks are used for your application. Follow these steps to delete unused tasks.

1. From the Controller Organizer in RSLogix 5000 software, right-click a task and choose Delete.
2. Repeat step 1 for each unnecessary task



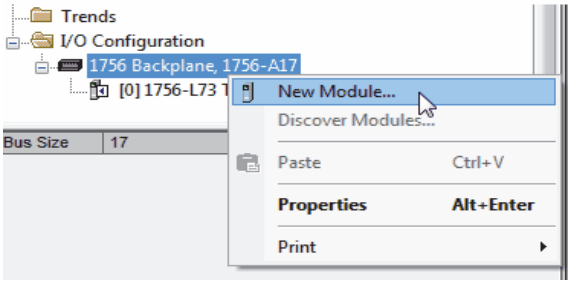
3. Review your final task configuration to verify it matches your sizing calculation in the PSE.

TIP Periodic tasks do not have programs attached when a project is created in RSLogix 5000 software. You must create programs and routines per task. For procedures, see the ControlLogix Systems User Manual, publication 1756-UM001.

Add Modules to Local Chassis

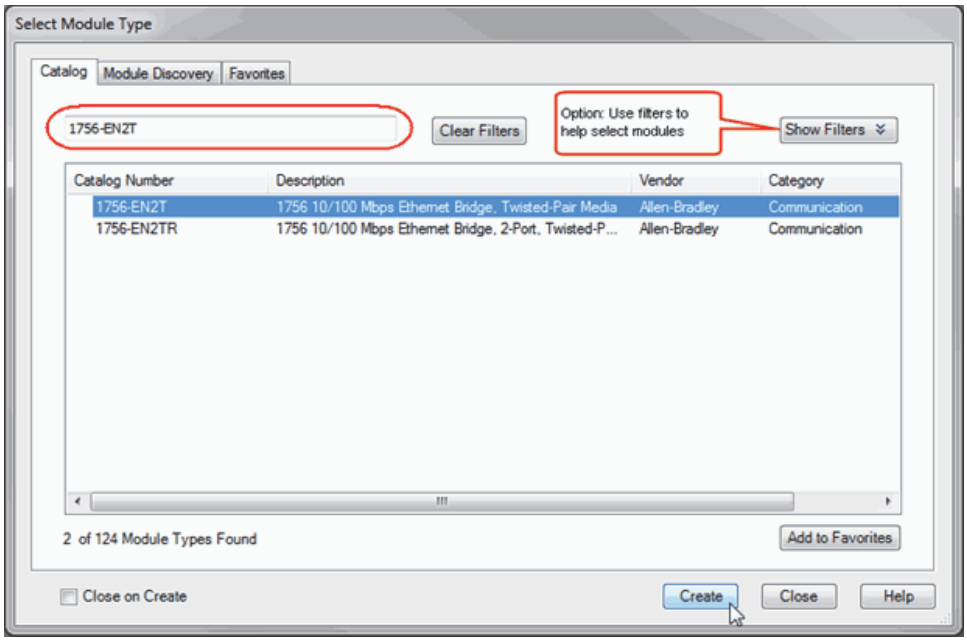
In this section, you are adding all the necessary modules to your local chassis, including network adapters and I/O modules, to the I/O tree of a Logix controller.

1. In the Controller Organizer, right-click the backplane and choose New Module.



2. In the Search field, type a catalog number of a module that you are adding.

   The example shows a 1756-EN2T network adapter being selected.

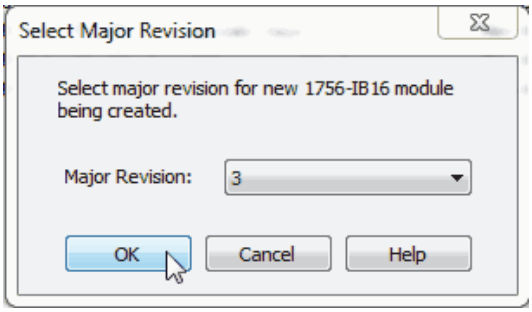


TIP To make it easier to locate a particular module, use the filters to view only the module types you need.

The Module Discovery tab takes you through the I/O tree of the Logix controller to determine which modules you need to configure or modify. The tab is active if the controller is online and the network path is valid.

3. Select a module and click Create.

If applicable for your selected module, from the Major Revision pull-down menu, choose a firmware revision.



4. Click OK.
5. On the New Module dialog box, type a module name, description, and slot number (and IP address if adding a communication module).

   TIP Make sure the slot number for the module in the chassis is correct.

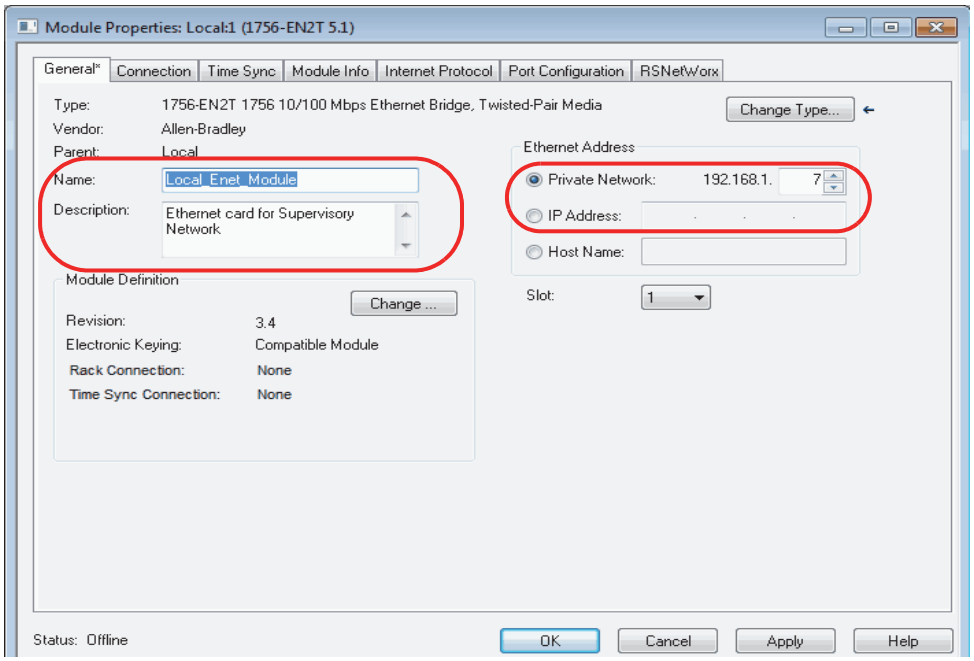
6. Click OK.
7. Repeat step 1 through step 6 to add each module in the local chassis of the target controller.

Configure Network Adapters

In this section, you learn how to select and configure network adapters to communicate with PASS servers and remote I/O chassis.

1. In the Controller Organizer, double-click the module to be configured.
2. On the Module Properties dialog box, modify the module name, if necessary.

   For example, Supervisory_Network or Remote_IO_Local.

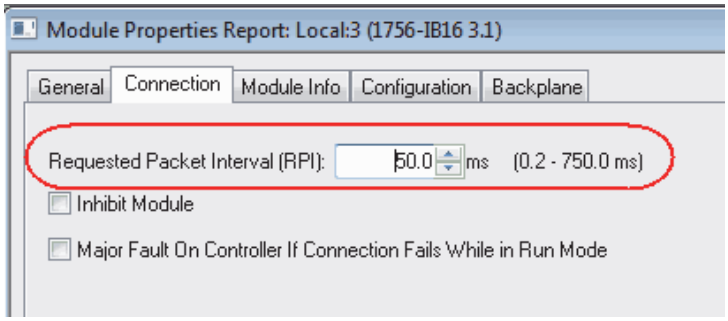


3. Type the Ethernet address for the module in the chassis.
4. Click OK.
5. Repeat step 1 through step 4 to configure each network adapter in the local chassis of the target controller.

Configure I/O Modules

Follow these steps to configure local analog and digital I/O modules with a Requested Packet Interval (RPI) and module definition, if applicable. The RPI is the amount of elapsed time for an exchange of data between the controller and module.

1. In the Controller Organizer, double-click the I/O module to be configured.
2. On the Module Properties dialog box, click the Connection tab.



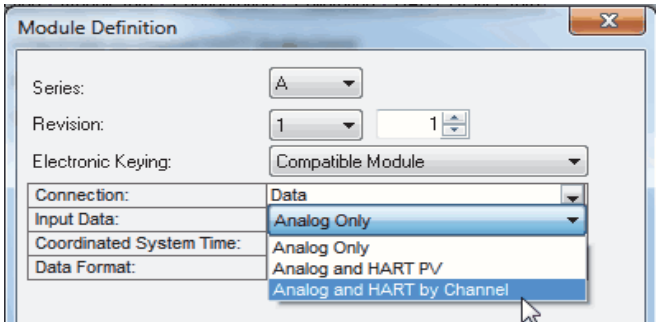
3. Set the RPI and click OK.

IMPORTANT	An RPI that is set too fast can affect controller performance. We suggest that you specify an RPI that is two times faster than task execution or based on inherent properties of the signal being measured. For example, a 250 ms task requires a 125 ms time, but temperature measurements can be set slower as they are unlikely to change that quickly.

For certain device types, there can be additional configuration required. For example, when using a HART module, you have to change the module definition to collect HART data.

4. Follow these steps to modify the module definition:
   a. On the New Module dialog box, click Change in the Module Definition area.
   b. From the Input Data pull-down menu, choose from the list.

      For example, Analog and HART by Channel.
   c. Click OK.



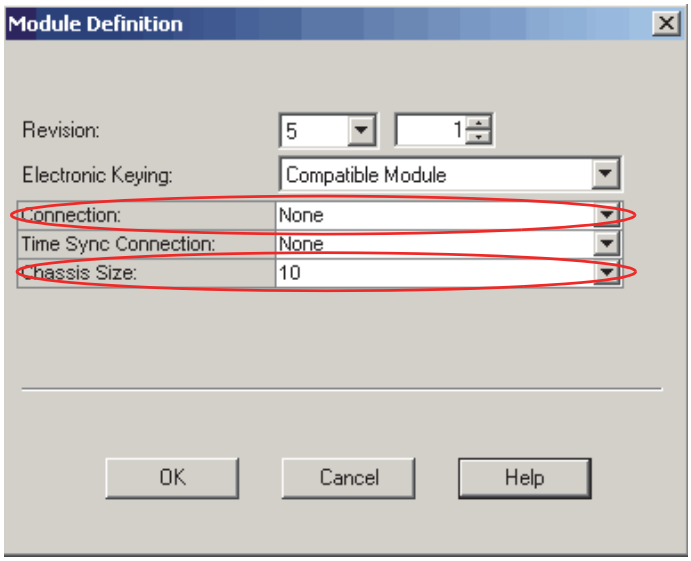
   d. Click Yes if a warning message appears that you are changing the module definition.

5. Repeat step 1 through step 4 to configure each I/O module in the local chassis of the target controller.

Add Remote I/O Chassis and Modules

Follow these steps to add the remote I/O chassis and associated I/O modules for the target controller.

1. In the I/O Configuration tree, right-click the remote I/O network adapter and choose New Module.
2. Type a catalog number to search for the network adapter in the remote I/O chassis.
3. Select a network adapter and click Create.
4. Type the chassis name and description based on the target controller.
5. Type an IP address and a slot number for this module.
6. Click Change.
7. On the Module Definition dialog box, from the Connection pull-down menu, choose None to collect all of the diagnostic data.
8. From the Chassis Size pull-down menu, choose the size for the first remote chassis.



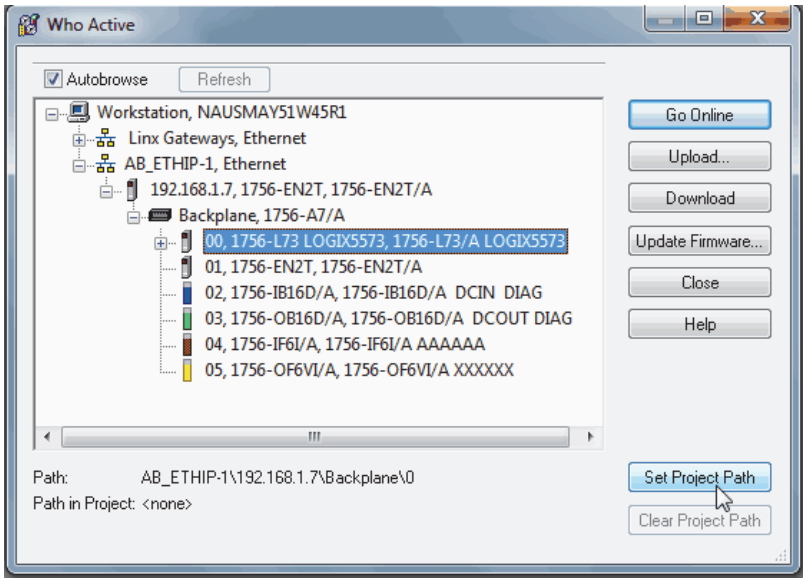
9. Click OK.
10. To add a module to the remote chassis, right-click the remote communication module and choose New Module.
11. Follow the previous steps in this chapter for adding digital and analog I/O modules to the remote chassis.
12. Repeat step 1 through step 11 for each remote I/O chassis.

Download the Project

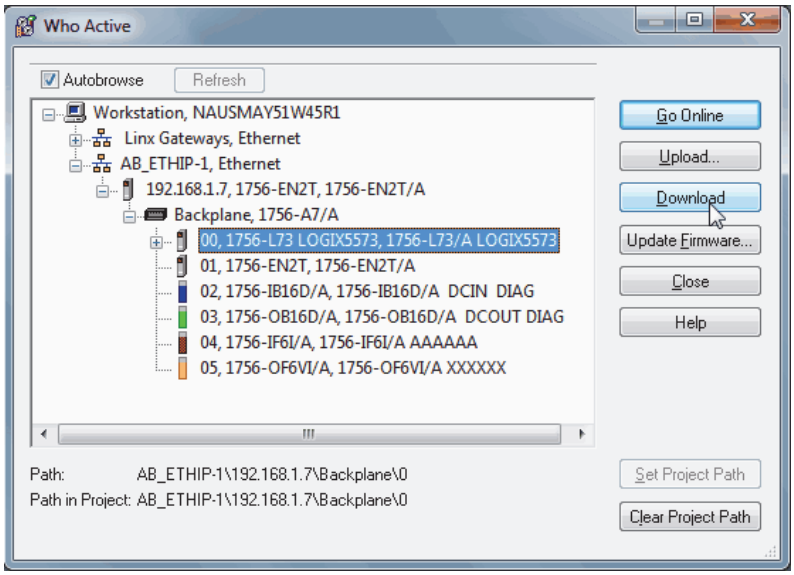
Follow these steps to download your project to a controller.

1. Make sure your controller is in Remote Program mode.
2. If necessary, set a path to the controller.
   a. Click the Who Active icon.

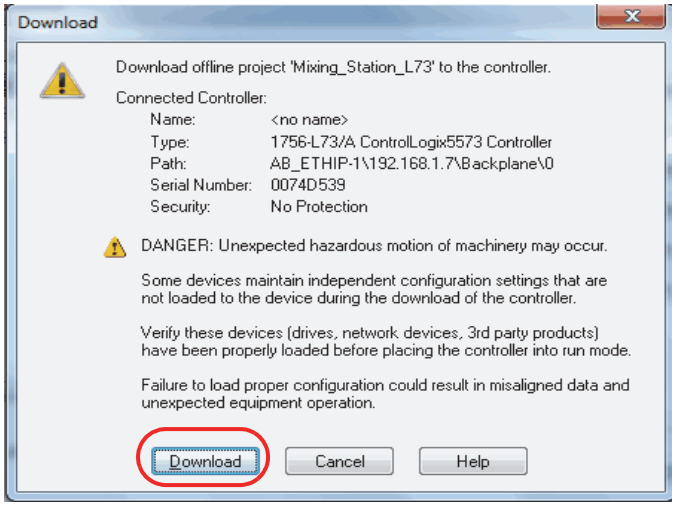
   b. In the Who Active dialog box, navigate to your controller and click Set Project Path.



3. Click Download.



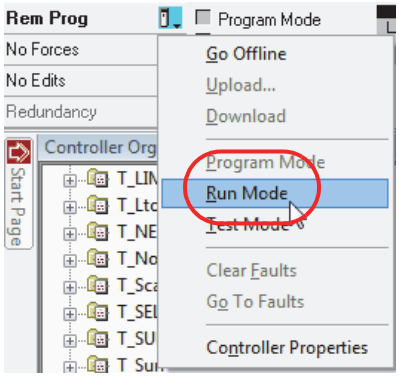
4. Click Download again.


Download
Download offline project 'Mixing_Station_L73' to the controller.
Connected Controller:
Name: <no name>
Type: 1756-L73/A ControlLogix5573 Controller
Path: AB_ETHIP-1\192.168.1.7\Backplane\0
Serial Number: 0074D539
Security: No Protection
DANGER: Unexpected hazardous motion of machinery may occur.
Some devices maintain independent configuration settings that are not loaded to the device during the download of the controller.
Verify these devices (drives, network devices, 3rd party products) have been properly loaded before placing the controller into run mode.
Failure to load proper configuration could result in misaligned data and unexpected equipment operation.
Download
Cancel
Help

Your project is downloaded to your controller.

5. Place your controller in whatever mode is necessary.

For example, if you want the controller in Remote Run mode, from the Mode pull-down menu , choose Run Mode.



6. When finished, save the file to a convenient location.

IMPORTANT Repeat the tasks in this chapter for the next controller, if applicable, starting on page 13.

Create Your HMI Project

In Chapter 1, you learned how to structure the controller application for your system. In this chapter, you create your HMI project to follow PlantPAx system recommendations by using the PlantPAx HMI templates.

To build an HMI project, you must complete the following tasks:

- Download and select an HMI template
- Create all logical servers (data, HMI, and alarms, if applicable) and configure communication and system settings
- In the process of creating your HMI servers, apply the PlantPAx HMI template to your project

The HMI project is built by using one of three software components: HMI servers, Data servers, or Tag Alarm and Event servers. All of these software components are assigned to a PASS server.

Before You Begin

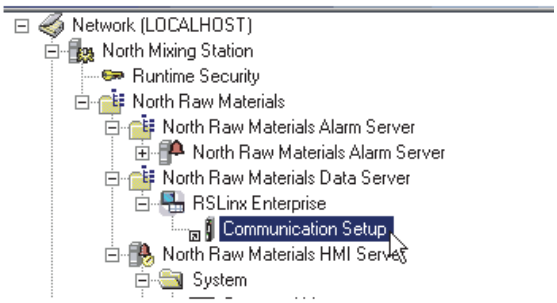
You must complete these tasks before using this chapter:

- Tasks described in Before Using This Publication on page 6, including the following:
  - Define the system (for example, determine the number of HMI, Data, and Alarm and Event servers to be used where they are hosted)
  - Install the system (PASS servers must be installed and available)
- You identify the target screen resolution on your OWS

What You Need

To complete tasks in this chapter, you need FactoryTalk View SE client software, version 7.0, running on a PASS server. You can use an EWS to implement the steps in this chapter.

The illustration shows an example of an HMI project structure.



The server section of the worksheet is a useful aid for completing tasks in this chapter. The worksheet sections include the following:

- Information from the PSE sizing tool:
  - Number of servers and controllers
  - Domain or workgroup
- Information about the controller used in Chapter 1, such as controller name and IP addresses

Figure 4 - PASS Worksheet Example

Data Server Section

Is this a Station or Distributed Setup	Distributed
Domain or Workgroup""	Domain
Domain Controller/Workgroup Name"	North Mixing Station
Computer Hosting Factory Talk Direc	PASS North HMI
How Many Data Servers are in the sys	1

Data Server - Information

Computer Name"	Physical or Virtual Servers""	Redundant""	Computer Name Hosting Secondary Data Server	Area Name"	# of PlantPAx Controllers"	Device Based Alarming""
North Mixing Station	Physical	No		North Raw Materials	3	No

Data Server - Controller Assignment

Computer Name	PlantPAx Controller""	Data Server Shortcut Name
North Mixing Station	Mixing Station	Mixing Station
	Mixing Station	Mixing Station
	Mixing Station	Mixing Station

HMI Server Section

How many HMI servers are in the syst	1
Are the HMI servers on the same machine as data servers?""	Yes

HMI Server Information

Computer Name"	Physical or Virtual Servers""	Redundant""	Computer Name Hosting Secondary Data Server	Area Name"
North Mixing Station	Physical	No		North Raw Materials

Alarm Server Section

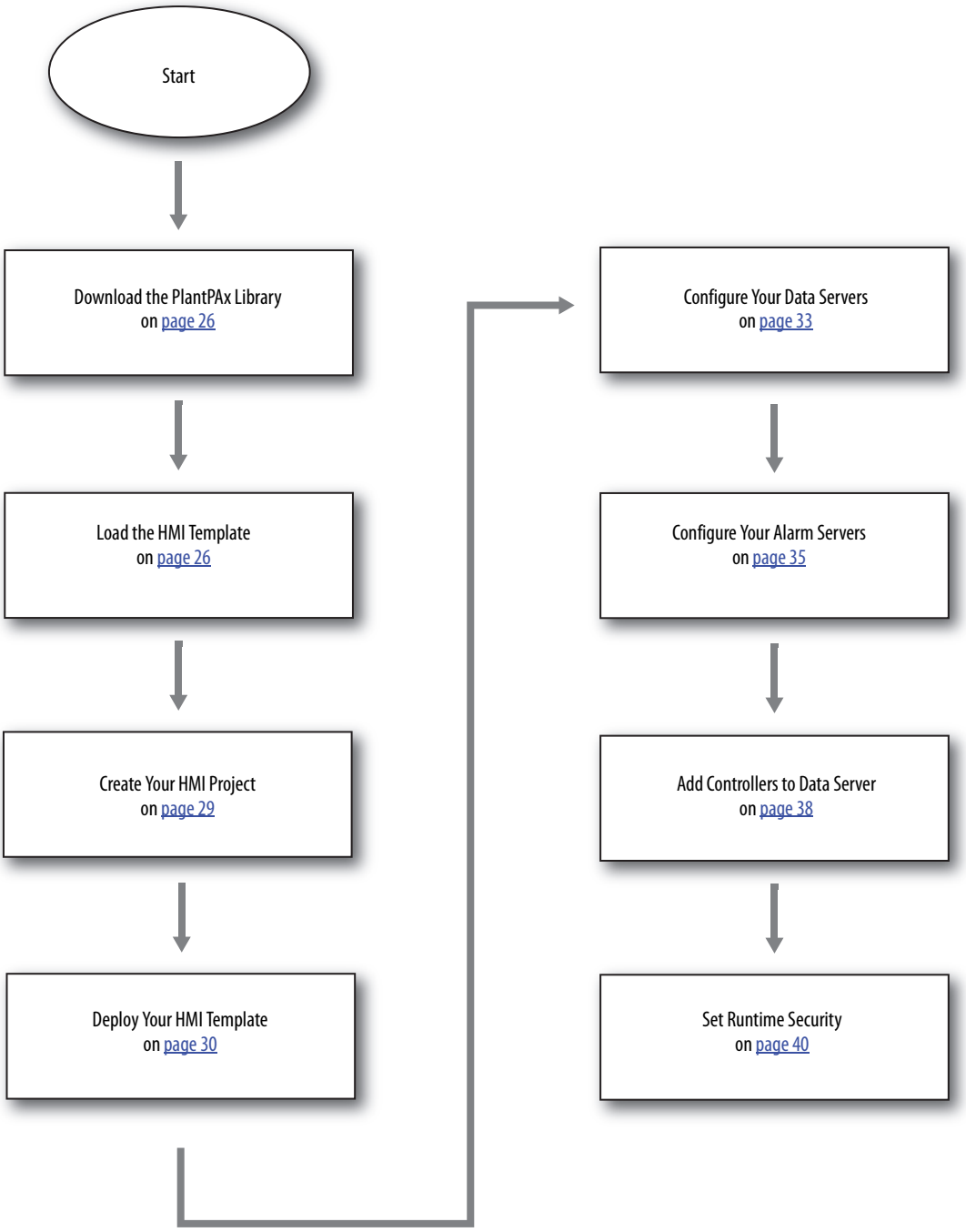
How many Alarm servers are in the sy	1
Are the Alarm servers on the same machine as data servers?""	Yes

Alarm Server Information

Computer Name"	Physical or Virtual Servers""	Redundant""	Computer Name Hosting Secondary Data Server	Area Name"
North Mixing Station	Physical	No		North Raw Materials

Follow These Steps

These steps describe how to create your HMI project.



HMI Template Overview

There are three HMI templates available for download on the Knowledgebase Answer ID 62682 at http://www.rockwellautomation.custhelp.com. For most systems, you load the templates on the PASS server by using the EWS, and your system data is viewed on the OWS.

Table 5 - HMI Template Names and Display Resolutions

Name	Supported Resolution
FTVSE_7_P1FHD_3_0_00.apa	1920 x 1080, Full HD
FTVSE_7_P1SXGA_3_0_00.apa	1280 x 1024, SXGA
FTVSE_7_P1WXGA_3_0_00.apa	1366 x 768, WXGA

PlantPAx HMI templates are provided as local site edition back-up files. All of the above templates include the following attributes:

- Basic display layout
- Navigation
- FactoryTalk View Alarms and Events displays

Download the PlantPAx Library

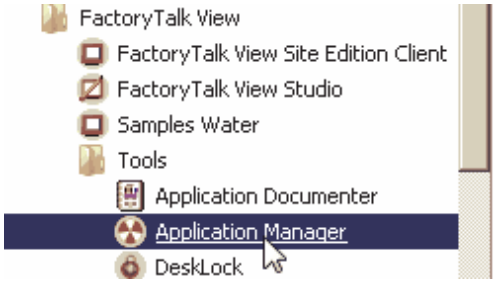
If you have not done so already, complete the task on page 13 to download the HMI template files in the PlantPAx Library of Process Objects.

TIP The HMI templates described in Table 5 are distributed with the Library in a folder titled, Templates.

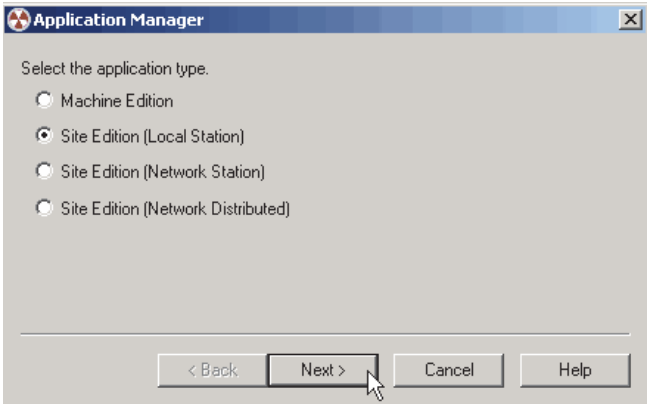
Load the HMI Template

The downloaded PlantPAx HMI templates are local site edition back-up files. This task restores the HMI back-up file onto your system and makes the template available for deployment as you create HMI servers for your project.

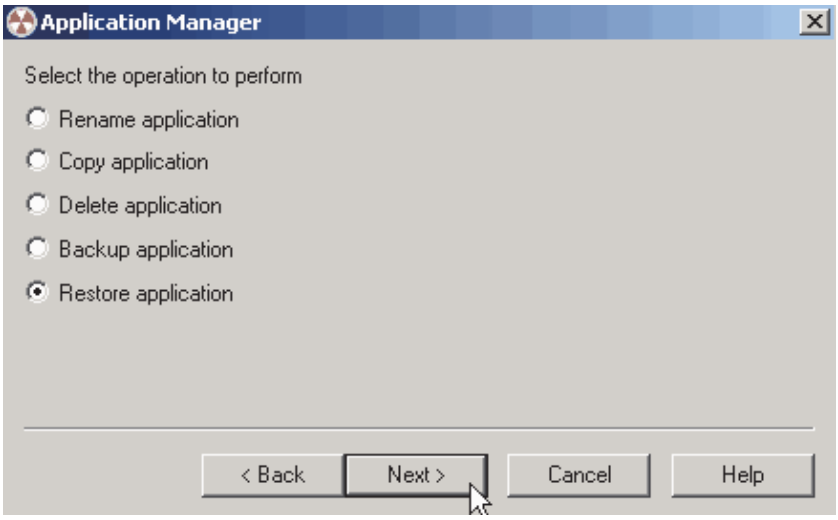
1. From the Start menu, run the FactoryTalk View tool Application Manager .



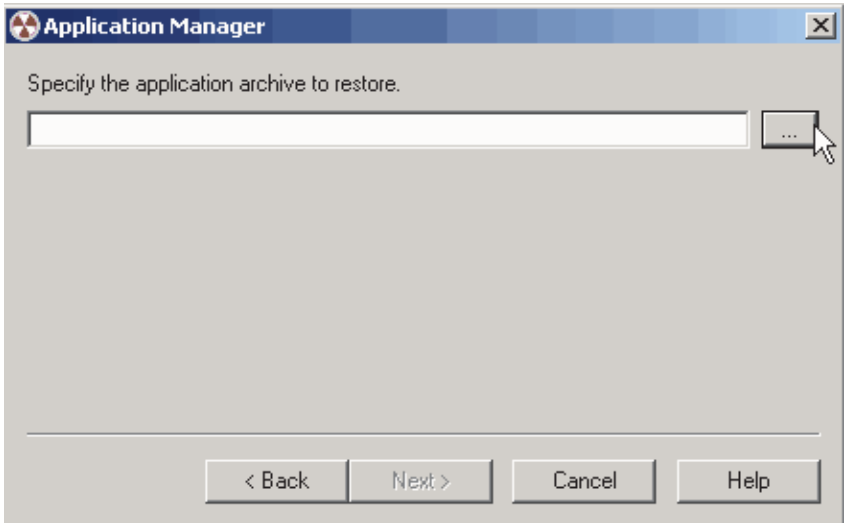
2. Click Site Edition (Local Station) and click Next.



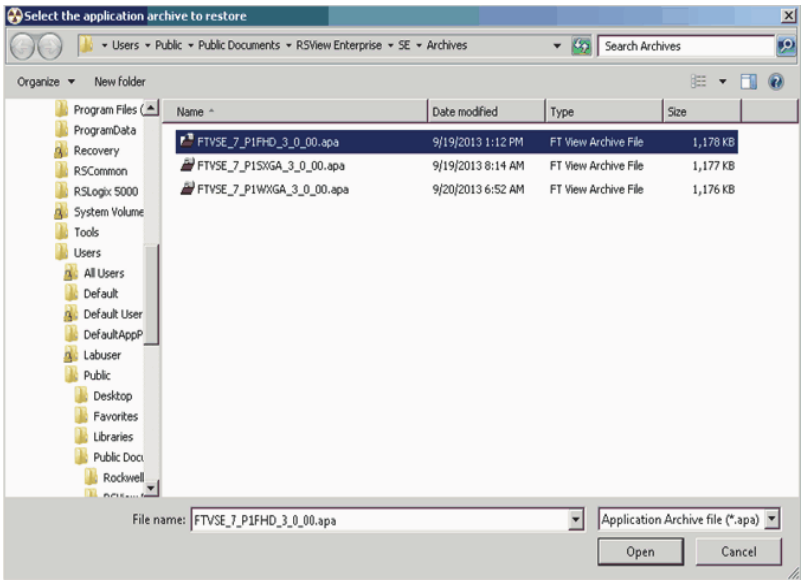
3. Click Restore application and click Next.



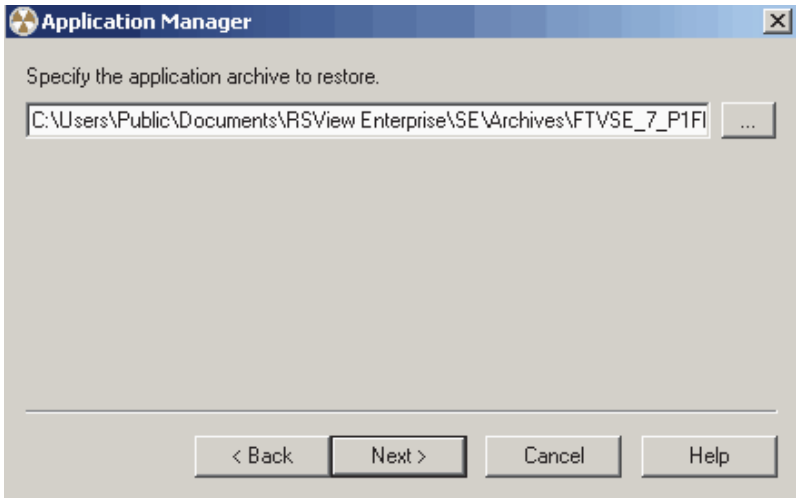
4. Click Browse (...).



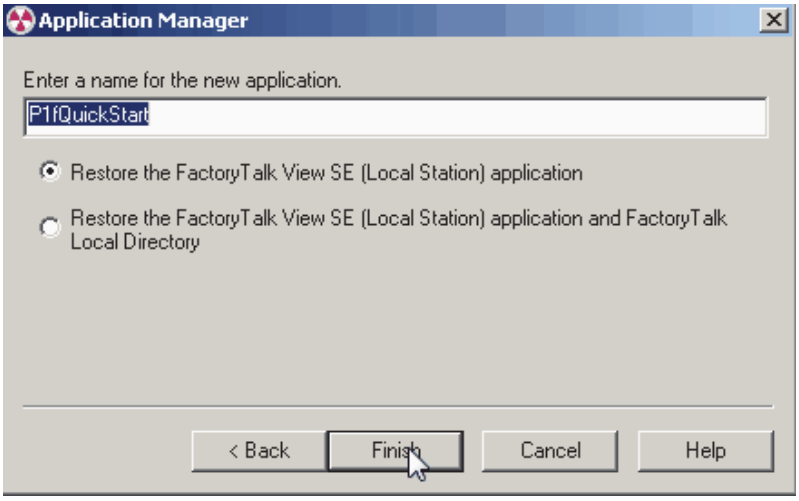
5. Select a template .apa file that you want to restore and click Open.



6. Leave the default file location and click Next.



7. Type an application name and click Finish.

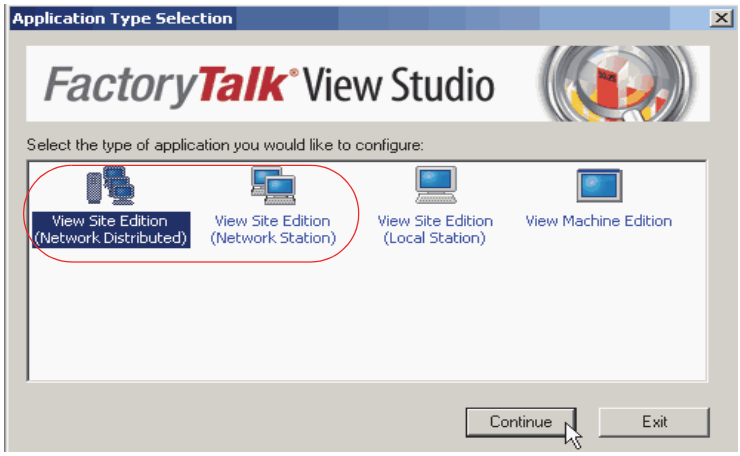


Create Your HMI Project

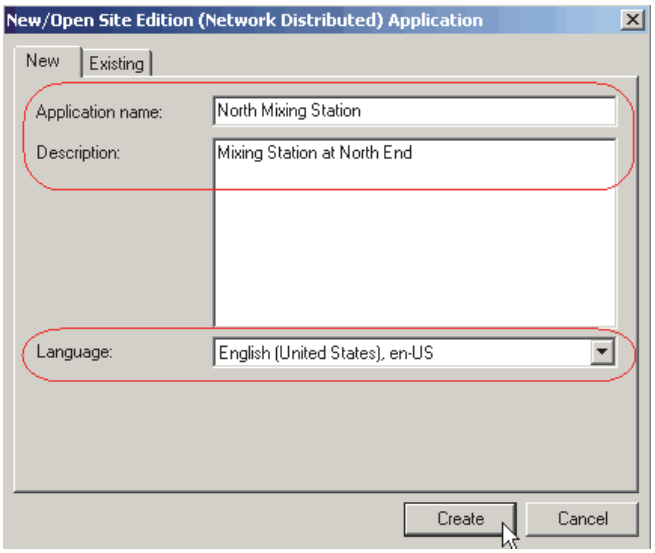
To create your HMI project, in FactoryTalk View Studio software, first you create the network distributed or network station application, and then you add elements such as areas, HMI servers, Data servers, and Tag Alarm and Event servers. You assign the servers to their associated PASS servers.

Follow these steps to create your application.

1. From the FactoryTalk View Studio software program, click View Site Edition (Network Distributed) or View Site Edition (Network Station).


Application Type Selection
FactoryTalk View Studio
Select the type of application you would like to configure:
View Site Edition (Network Distributed)
View Site Edition (Network Station)
View Site Edition (Local Station)
View Machine Edition
Continue
Exit

2. Click Continue.



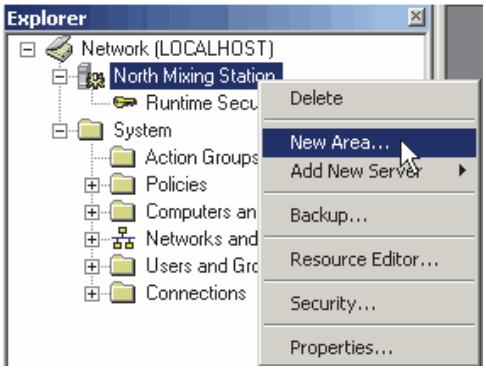
3. Click the New tab, and type an application name and description.
4. From the Language pull-down menu, choose your language.
5. Click Create.

Deploy Your HMI Template

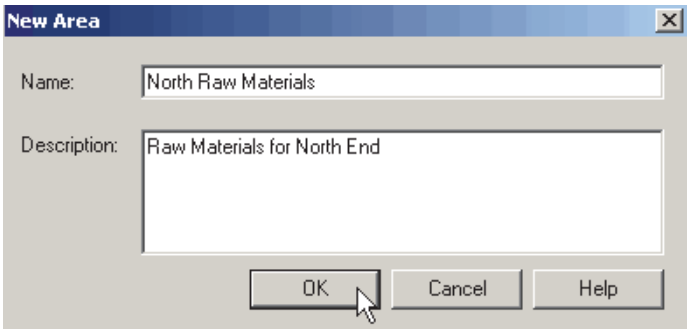
In this section, you use your HMI template to create your HMI servers. Your HMI project puts each logical server into its own area.

The HMI server stores project components, such as the graphic displays, and provides the components to the OWSs upon request.

1. To create a new area, right-click the application name and choose New Area.

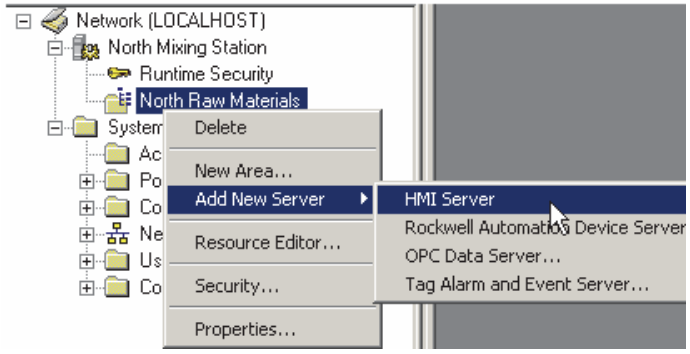


2. Type a name and description for the area and click OK.

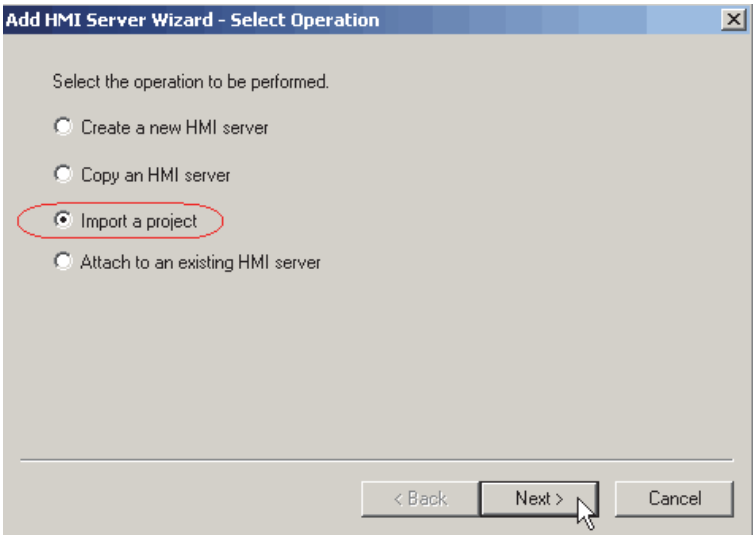


The area is added to your application. You are ready to add the HMI server to the area.

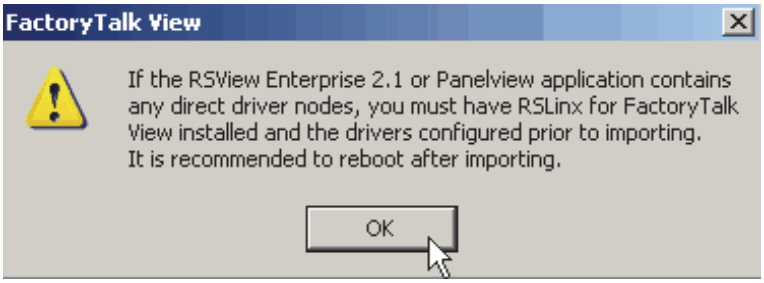
3. Right-click the area name and choose Add New Server>HMI server.



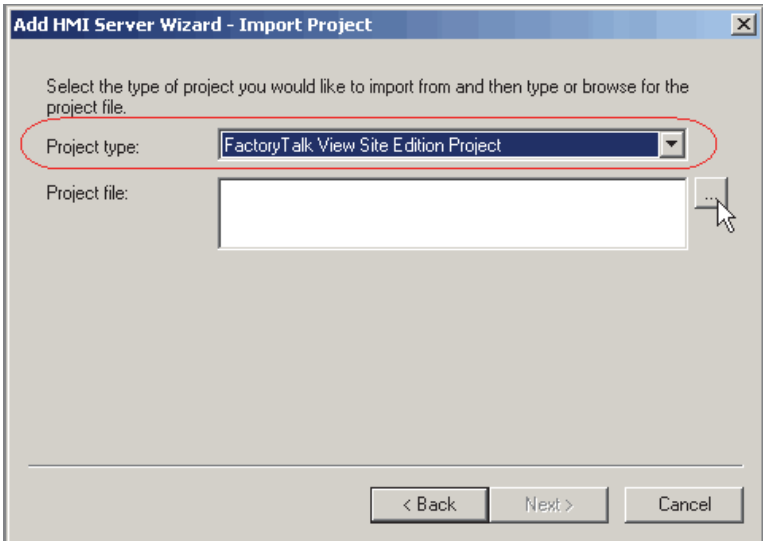
4. Click Import a project and click Next.


Add HMI Server Wizard - Select Operation
Select the operation to be performed.
Create a new HMI server
Copy an HMI server
Import a project
Attach to an existing HMI server
< Back
Next >
Cancel

5. On the FactoryTalk View message box, click OK.

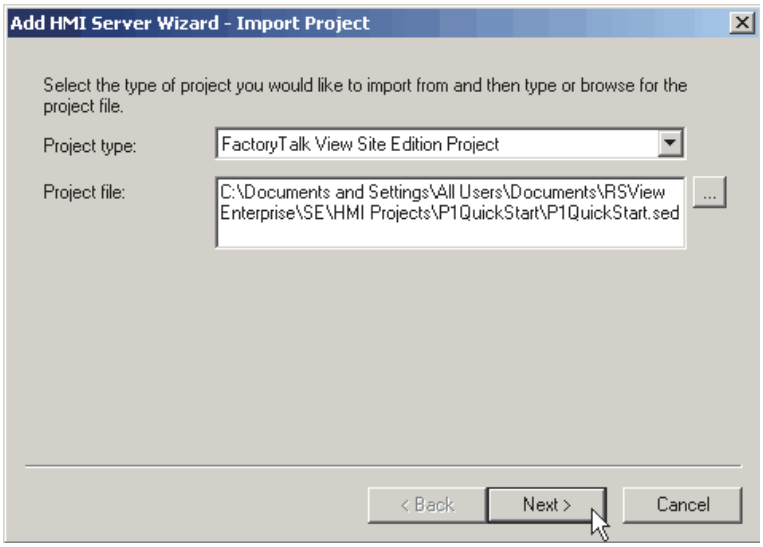

FactoryTalk View
If the RSView Enterprise 2.1 or Panelview application contains any direct driver nodes, you must have RSLinx for FactoryTalk View installed and the drivers configured prior to importing. It is recommended to reboot after importing.
OK

6. From the Project type pull-down menu, choose FactoryTalk View Site Edition Project.

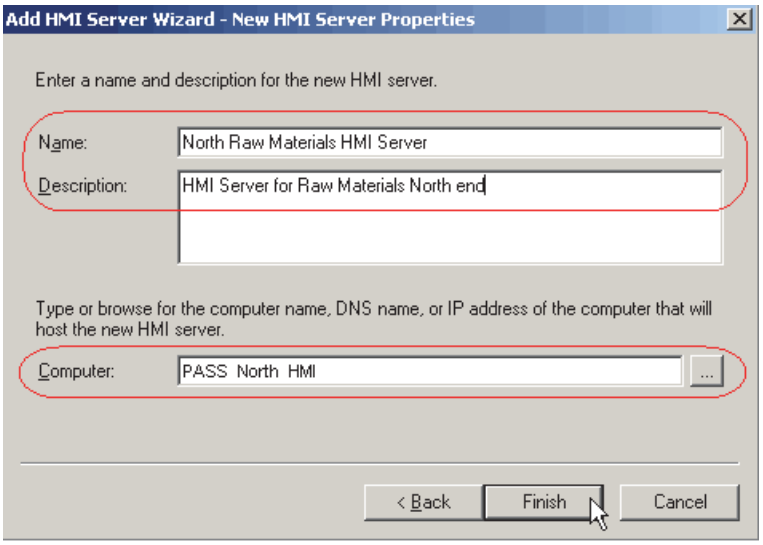

Add HMI Server Wizard - Import Project
Select the type of project you would like to import from and then type or browse for the project file.
Project type:
FactoryTalk View Site Edition Project
Project file:
< Back
Next >
Cancel

7. Click Browse (...) to locate the file path of the template you named on the Application Manager dialog box on page 28.

The file path appears in the Project file text box.


Add HMI Server Wizard - Import Project
Select the type of project you would like to import from and then type or browse for the project file.
Project type:
FactoryTalk View Site Edition Project
Project file:
C:\Documents and Settings\All Users\Documents\RSView Enterprise\SE\HMI Projects\P1QuickStart\P1QuickStart.sed
...
< Back
Next >
Cancel

8. Click Next.
9. Type a name and description of the server.


Add HMI Server Wizard - New HMI Server Properties
Enter a name and description for the new HMI server.
Name:
North Raw Materials HMI Server
Description:
HMI Server for Raw Materials North end
Type or browse for the computer name, DNS name, or IP address of the computer that will host the new HMI server.
Computer:
PASS North HMI
...
< Back
Finish
Cancel

10. From the Computer pull-down menu, choose the PASS server that is to host the HMI server.
11. Click Finish.

    All the HMI template files are loaded into the PASS server.
12. Repeat step 1 through step 11 for each HMI server in your project.

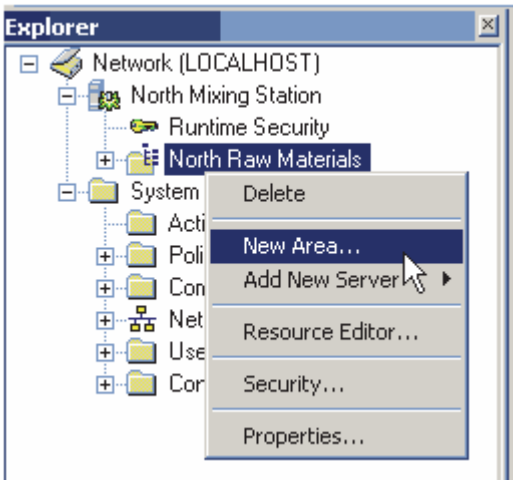
IMPORTANT	We recommend that HMI server redundancy be configured at the end of the project **after** the majority of your HMI application is developed.

Configure Your Data Servers

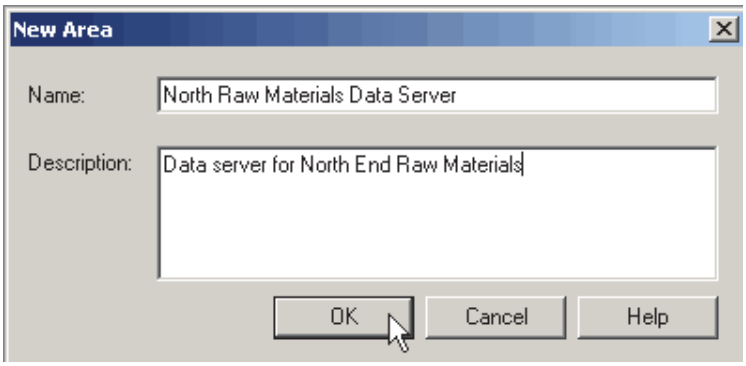
In this section, you learn how to initiate a Data server, which provides communication between the process controllers and the servers.

Follow these steps to configure a Data server.

1. Right-click the main application area created for the associated HMI server and choose New Area.

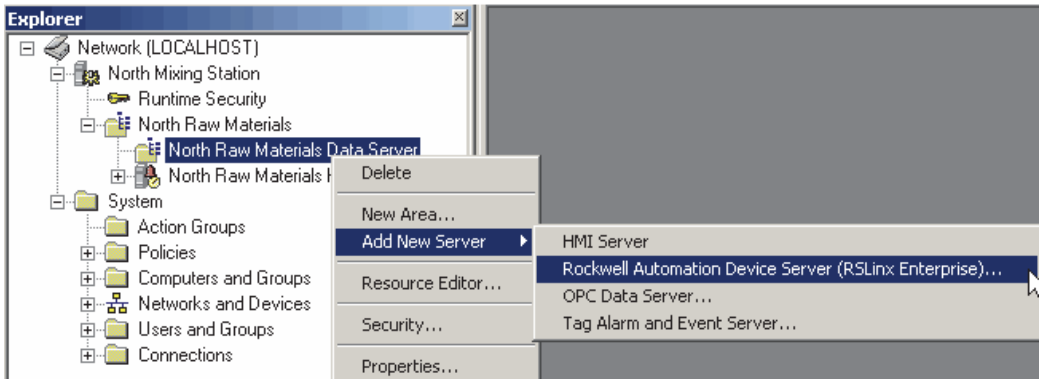


2. Type a name and description of the Data server area.

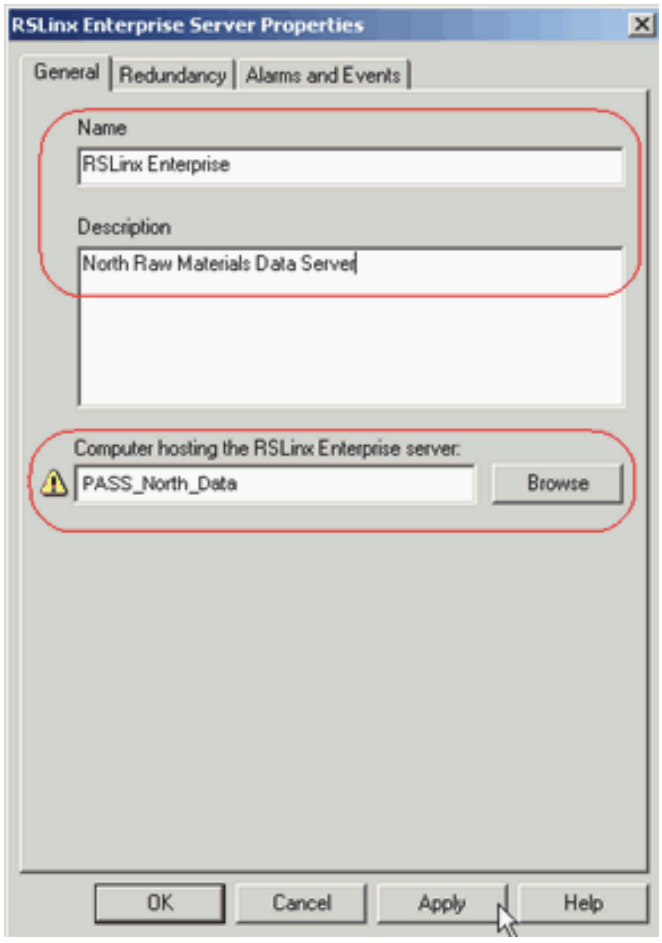


3. Click OK.

4. Right-click the Data server area and choose Add New Server>Rockwell Automation Device Server (RSLinx Enterprise).



5. Type a description of the Data server.



6. Click Browse and select the PASS server that is to host the Data server.

7. On the RSLinx Enterprise Server Properties dialog box, click the Alarms and Events tab.
8. To disable device-based alarming, clear the Enable alarm and event support checkbox.

IMPORTANT	The PlantPAx system sizing rules and critical system attributes are based on tag-based alarms. Therefore, we recommend a limited usage of device-based alarms. If device-base alarming is to be used, make sure additional loading has been considered. For more information and alarm recommendations, see Chapter 4 in the PlantPAx Process Automation System Reference Manual, publication PROCES-RM001. The alarm history database requires a separate SQL Server installation. If there is no database selection available under Alarm History, a database must be created. Refer to the FactoryTalk View Site Edition Installation Guide, publication VIEWSE-IN003.

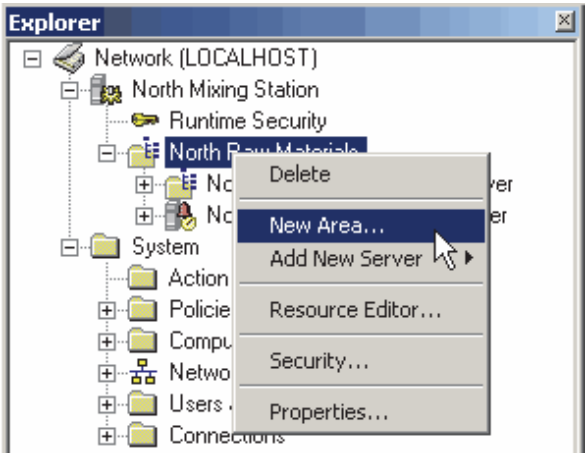
9. Click Apply, and OK.
10. Repeat step 1 through step 9 for each data server in your application.

IMPORTANT	We recommend that data server redundancy be configured at the end of the project **after** the majority of your HMI application is developed.

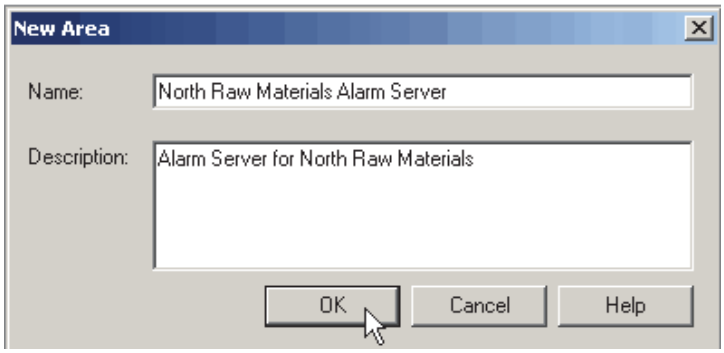
Configure Your Alarm Servers

In this section, you learn how to configure Alarm and Event servers for tag-based alarms.

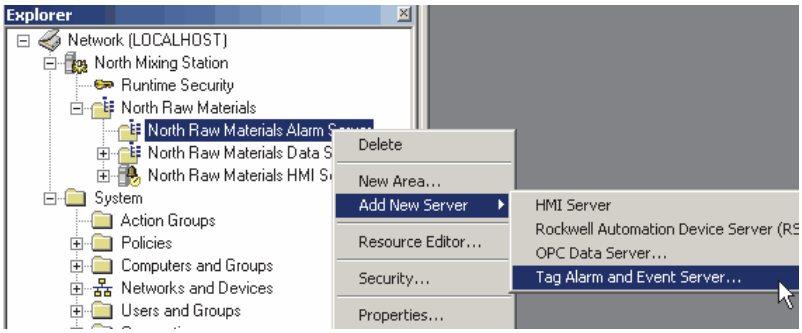
1. Right-click the main application area created for the associated HMI server and choose New Area.



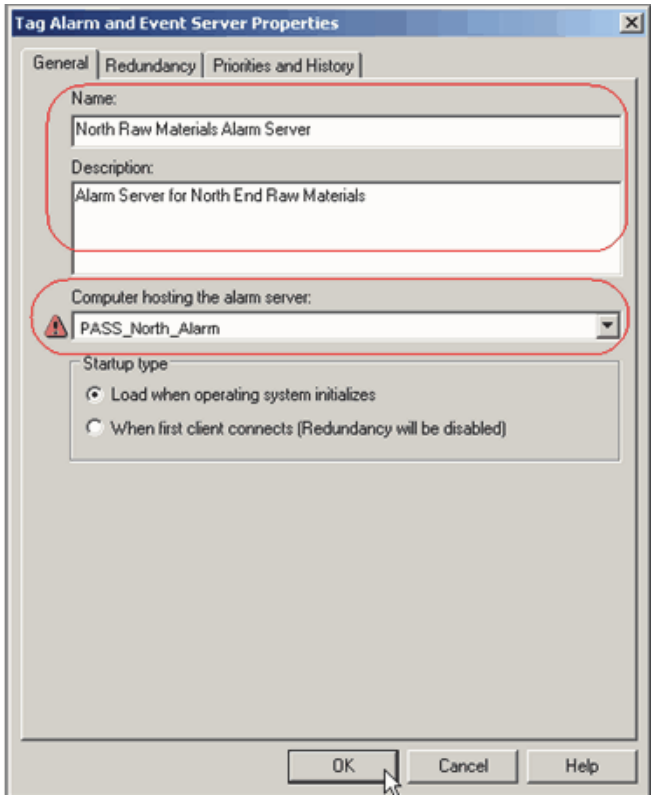
2. Type the name and description for the Alarm and Event server area in the application.



3. Click OK.
4. Right-click the alarm server area and choose Add New Server>Tag Alarm and Event Server.

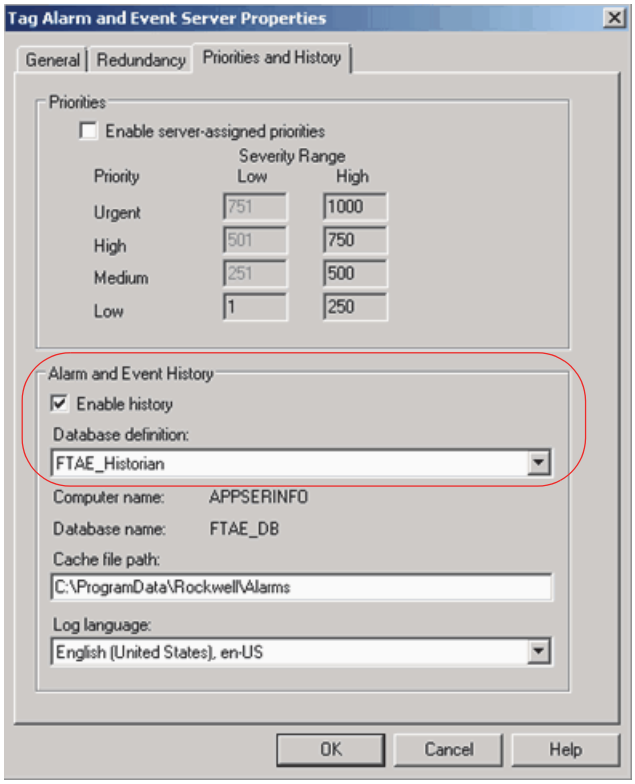


5. Type a name and description for the Alarm and Event server.



6. From the Computer pull-down menu, choose the PASS server that is to host the Tag Alarm and Event server.

7. Click the Priorities and History tab.



8. Check the Enable history checkbox to enable alarm and event history.
9. From the Database definition pull-down menu, choose the alarm history database that was created during the installation of the FactoryTalk View SE software.

IMPORTANT	The alarm history database requires a separate SQL server installation. If there is no database selection available under Alarm and Event History, a database must be created. Refer to the FactoryTalk Alarms and Events System Configuration Guide, publication FTAE-RM001.

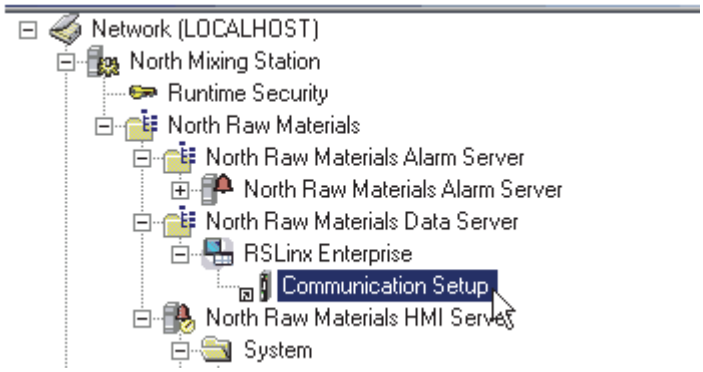
10. Click Apply, and OK.
11. Repeat step 1 through step 10 for each alarm server in your application.

IMPORTANT	We recommend that alarm server redundancy be configured at the end of the project **after** the majority of your HMI application is developed.

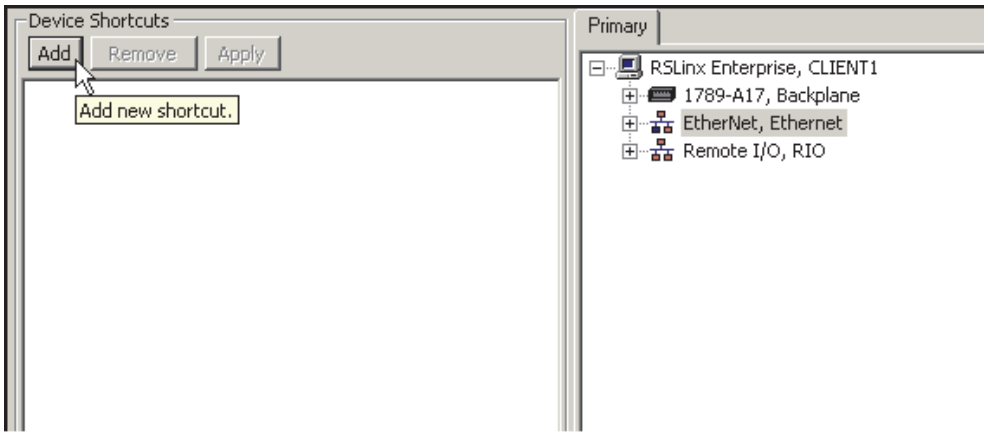
Add Controllers to Data Server

In this section, we create device shortcuts on Data servers so controllers can be connected.

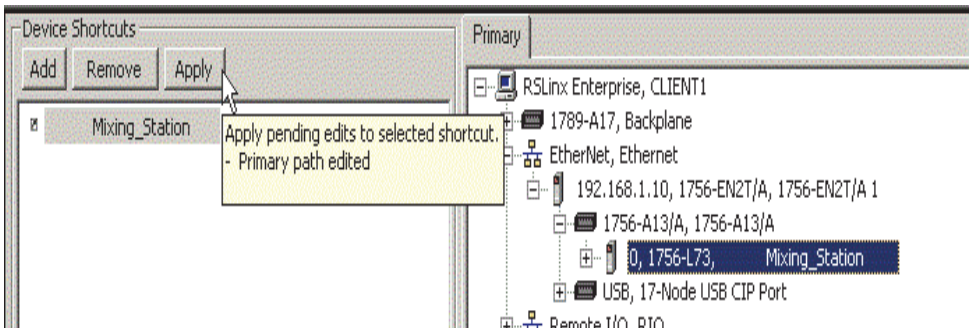
1. In the project tree, click '+' to expand the RSLinx Enterprise data server and double-click Communication Setup.



2. In the Device Shortcuts pane, click Add.

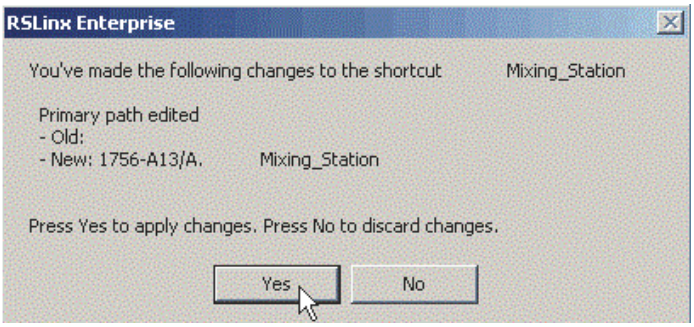


3. For the shortcut name, type the controller name.
4. In the Primary pane, expand the Ethernet driver to select the controller.



5. Click Apply.

6. On the message box, click Yes to apply changes to the shortcut.


RSLinx Enterprise
You've made the following changes to the shortcut Mixing_Station
Primary path edited
- Old:
- New: 1756-A13/A. Mixing_Station
Press Yes to apply changes. Press No to discard changes.
Yes
No

7. Repeat step 1 through step 6 for each Data server and controller combination in your application.

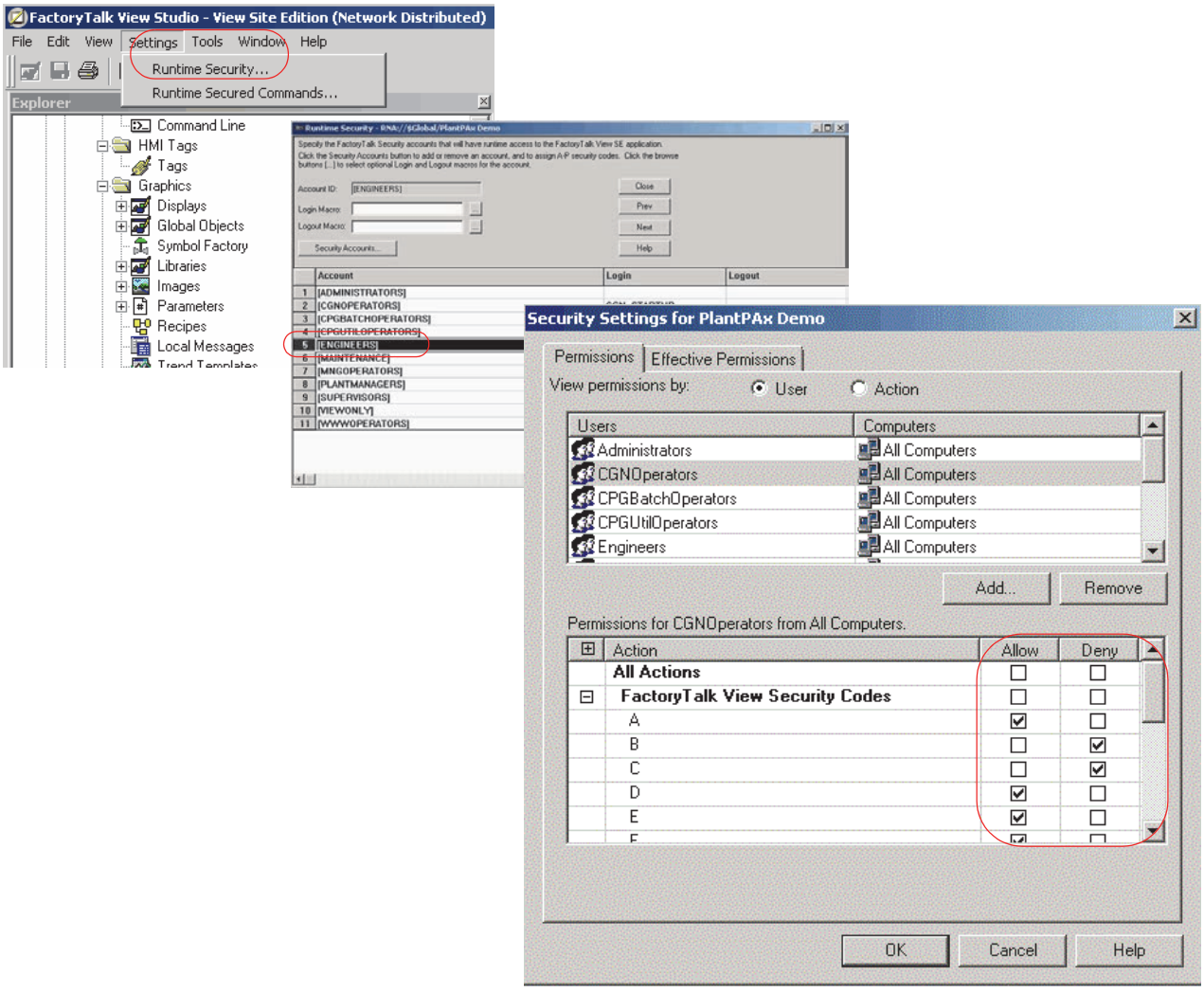
Set Runtime Security

If you are using the PlantPAx library, you must set up your runtime security to provide each account or group with the correct FactoryTalk View software security codes. These security codes verify that the correct permissions are provided to the operator, maintenance personnel, and engineer on the PlantPAx library faceplates.

The PlantPAx library provides guidance on the proper maintenance of the security codes.

Figure 5 is an illustrated example for setting up library security codes. For more information, see the FactoryTalk View Site Edition User's Guide, publication VIEWSE-UM006.

Figure 5 - Runtime Security Settings



Start Using Your HMI Project

In this chapter, you examine the template structure and then create a FactoryTalk View SE software client file for your OWS. You also become familiar with the features of your HMI template.

Before You Begin

You must complete these tasks before using this chapter:

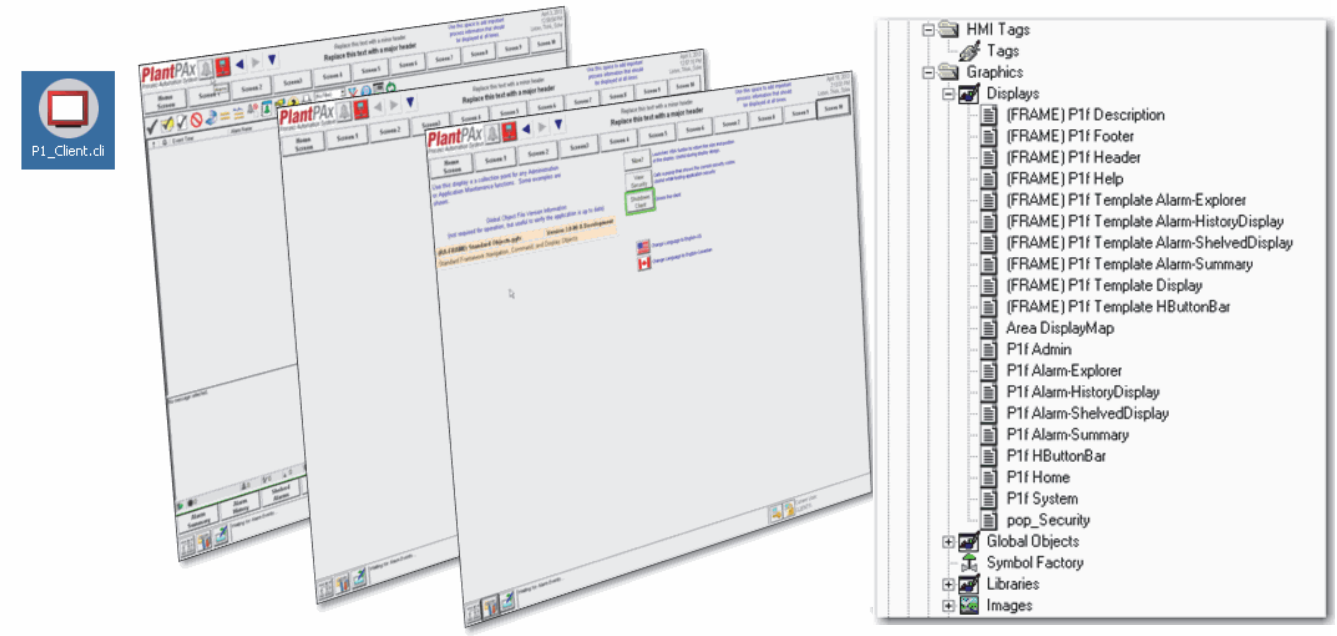
- Tasks described in Before Using This Publication on page 6
- Load a template and create an HMI project; see Chapter 2 for procedures.

What You Need

FactoryTalk View SE software, version 7.0, must be running on an EWS to view the template structure. You also need an EWS or OWS with a monitor matching the selected resolution to run the client site and review the template.

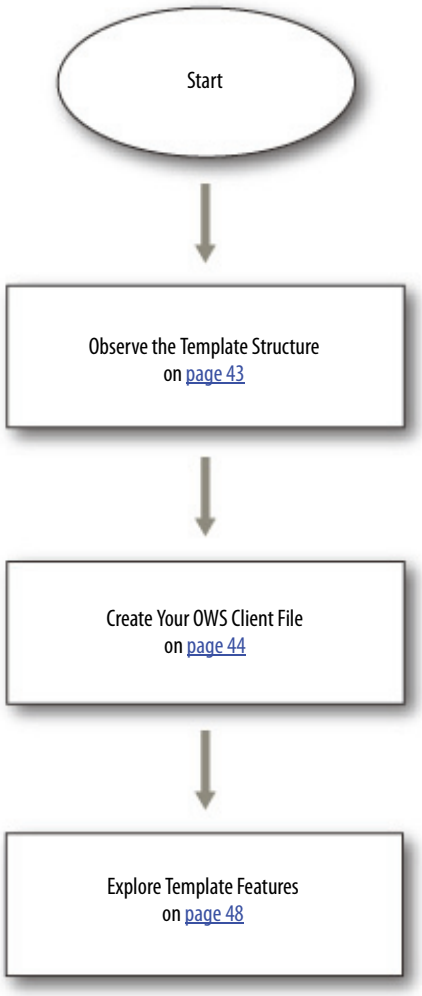
For template resolutions, see Table 5 on page 26.

The illustration shows the client file (left), display layouts (center), and a HMI template structure.



Follow These Steps

These steps describe how to configure your HMI project.



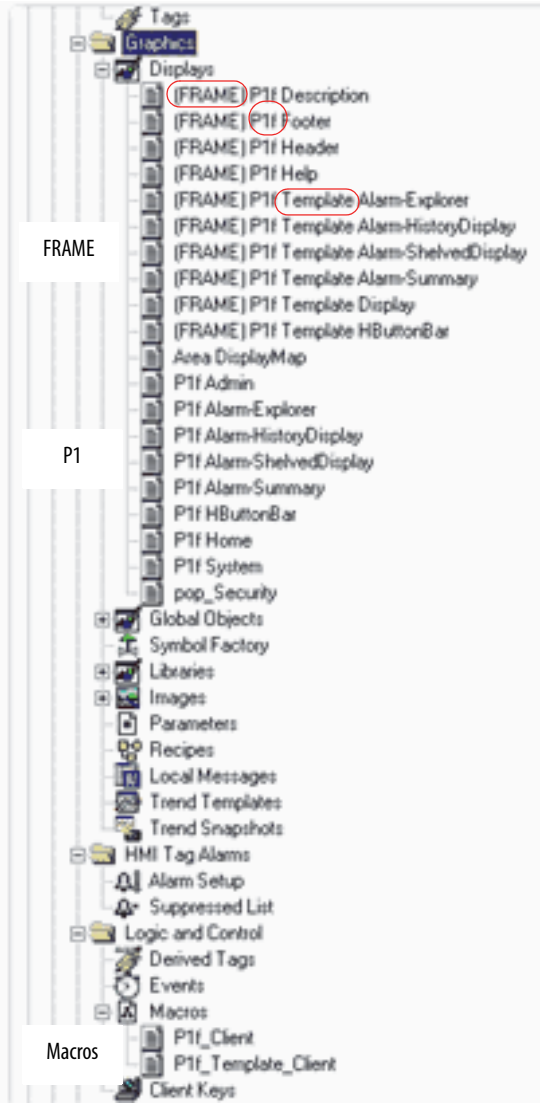
Observe the Template Structure

The example tree diagram shows the HMI template structure. Display and start-up macros are created as part of the template (shown at the bottom of the example).

The displays included in the template have the following naming structure:

- (**FRAME**) is a prefix used on items intended only to be used as is with minimum customization. These may be instantiated to create different environments on large projects.
- **P1f** is a unique template identifier. This prefix identifies the template that is being applied as well as the files that are part of the template.
- **Template** is used to identify a template that can be copied multiple times to create application-specific content. If this is not a template display, this word is omitted.
- The remaining name is a brief description of the display file. We suggest that these names be similar across templates. For example, P1 Home is the initial display.

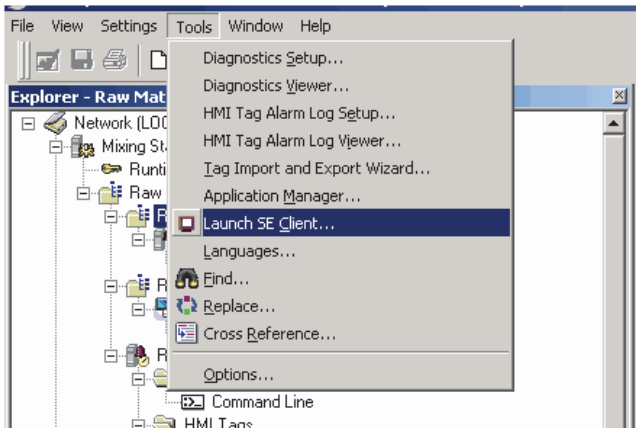
Macros configure the initial display structure during runtime. The start-up macros open the framework files in the orientation intended. For example, the header display at the top and the footer display at the bottom.



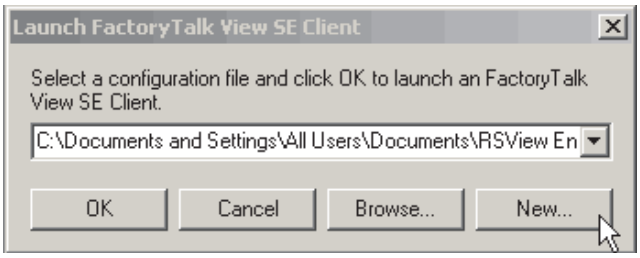
Create Your OWS Client File

In this section, you create a FactoryTalk View SE client file. Client files are used to launch a FactoryTalk View software client from the OWS. Once created, this client file can be copied to each OWS.

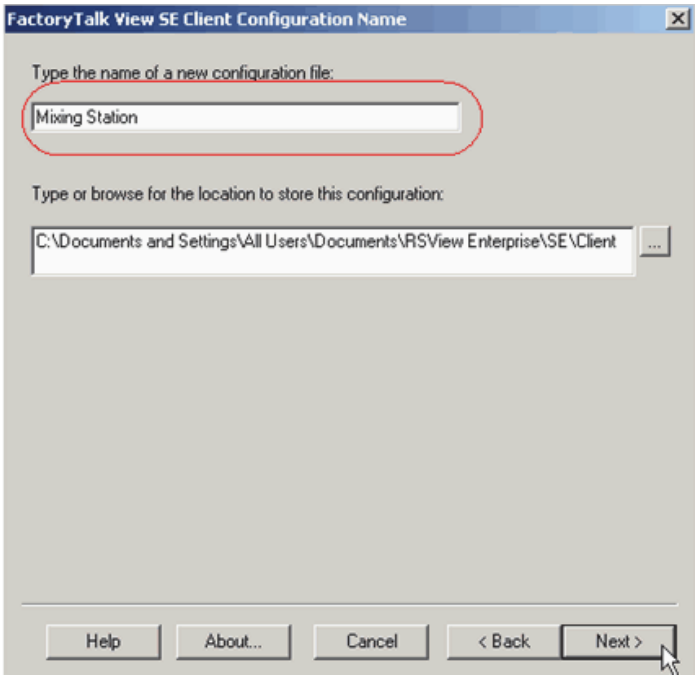
1. From the FactoryTalk View Studio software Tools menu, choose Launch SE Client.



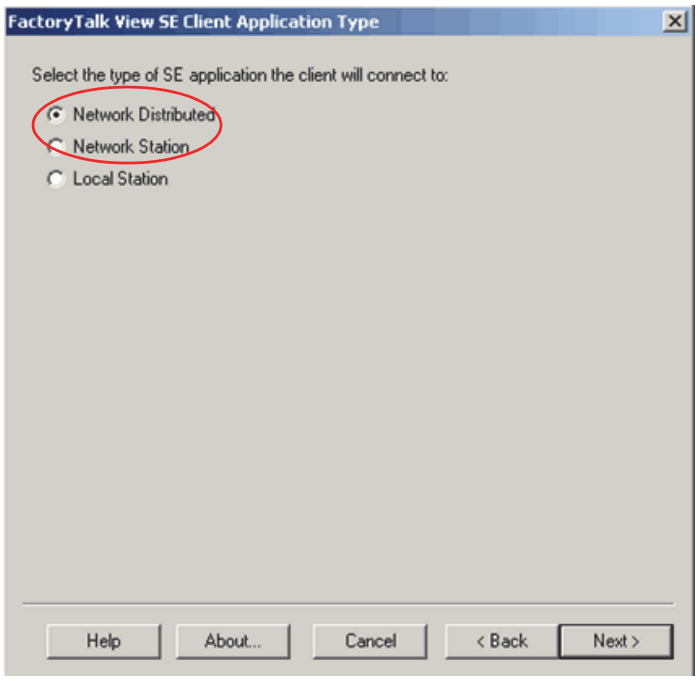
2. To create a new client file, click New.


Launch FactoryTalk View SE Client
Select a configuration file and click OK to launch an FactoryTalk View SE Client.
C:\Documents and Settings\All Users\Documents\RSView En
OK
Cancel
Browse...
New...

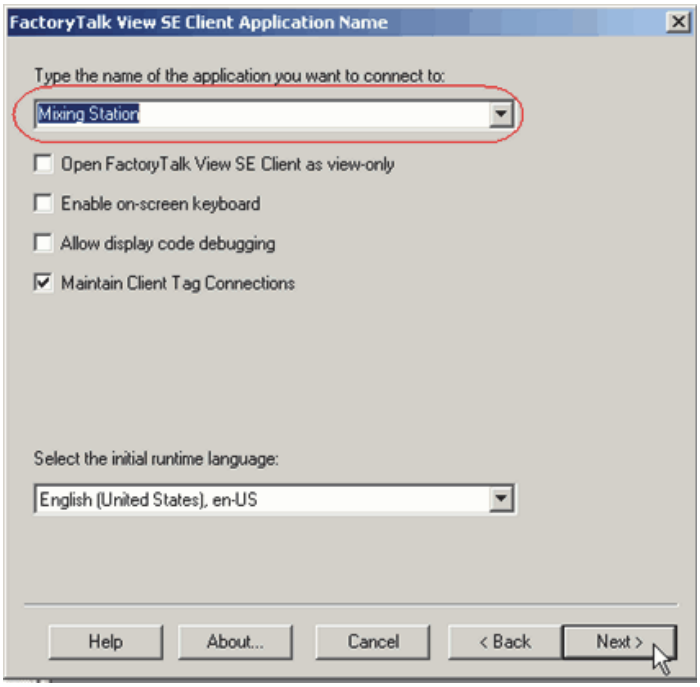
3. From the FactoryTalk View SE Client Wizard dialog box, click New.
4. Type the name of the new client file and click Next.


FactoryTalk View SE Client Configuration Name
Type the name of a new configuration file:
Mixing Station
Type or browse for the location to store this configuration:
C:\Documents and Settings\All Users\Documents\RSView Enterprise\SE\Client
Help
About...
Cancel
< Back
Next >

5. Click Network Distributed or Network Station and click Next.



6. From the pull-down menu, choose the name of the application.

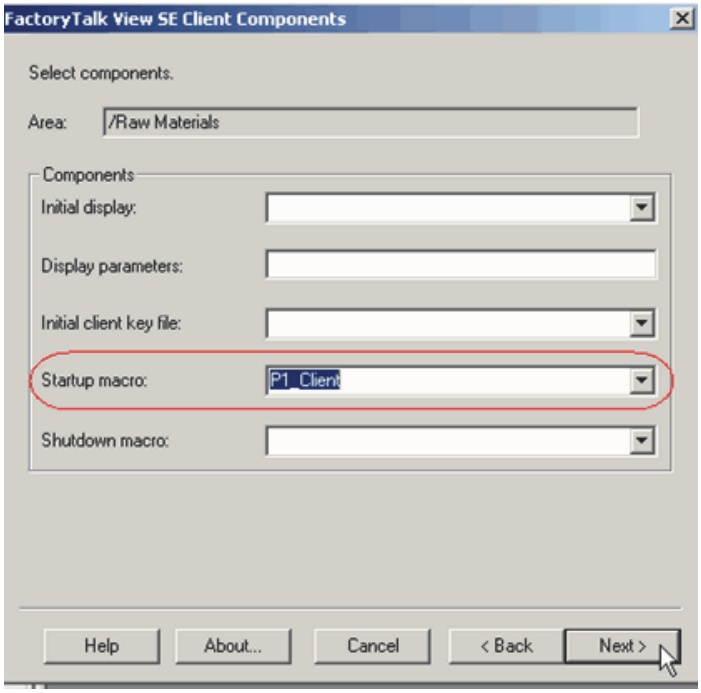

FactoryTalk View SE Client Application Name
Type the name of the application you want to connect to:
Mixing Station
Open FactoryTalk View SE Client as view-only
Enable on-screen keyboard
Allow display code debugging
Maintain Client Tag Connections
Select the initial runtime language:
English (United States), en-US
Help
About...
Cancel
< Back
Next >

7. Click Next.

8. From the Startup macro pull-down menu, choose a startup macro.

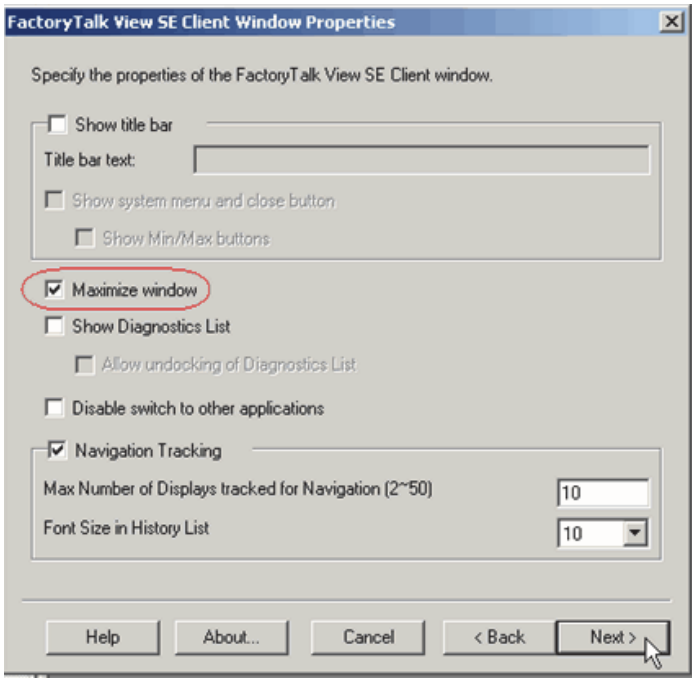
   The startup macro launches the initial displays and docks the navigation and alarm tool bars.

9. Click Next.



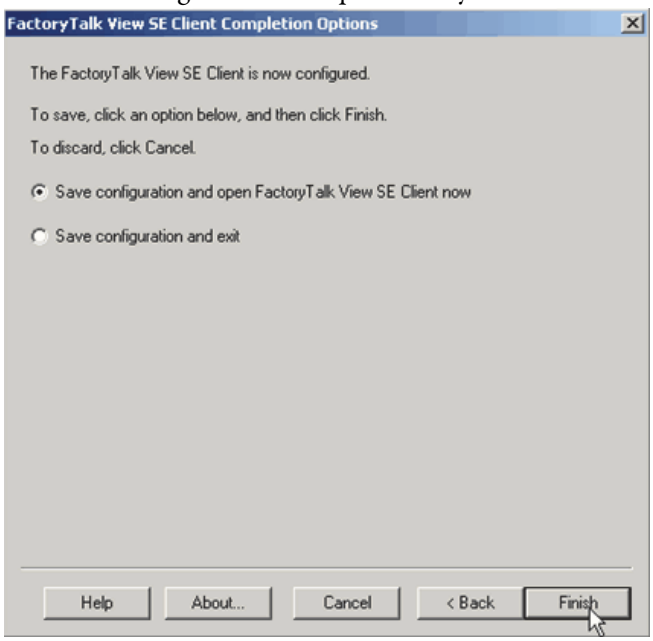
10. Check Maximize window and click Next.

    Make sure your selections in the check boxes match the dialog box as shown below.

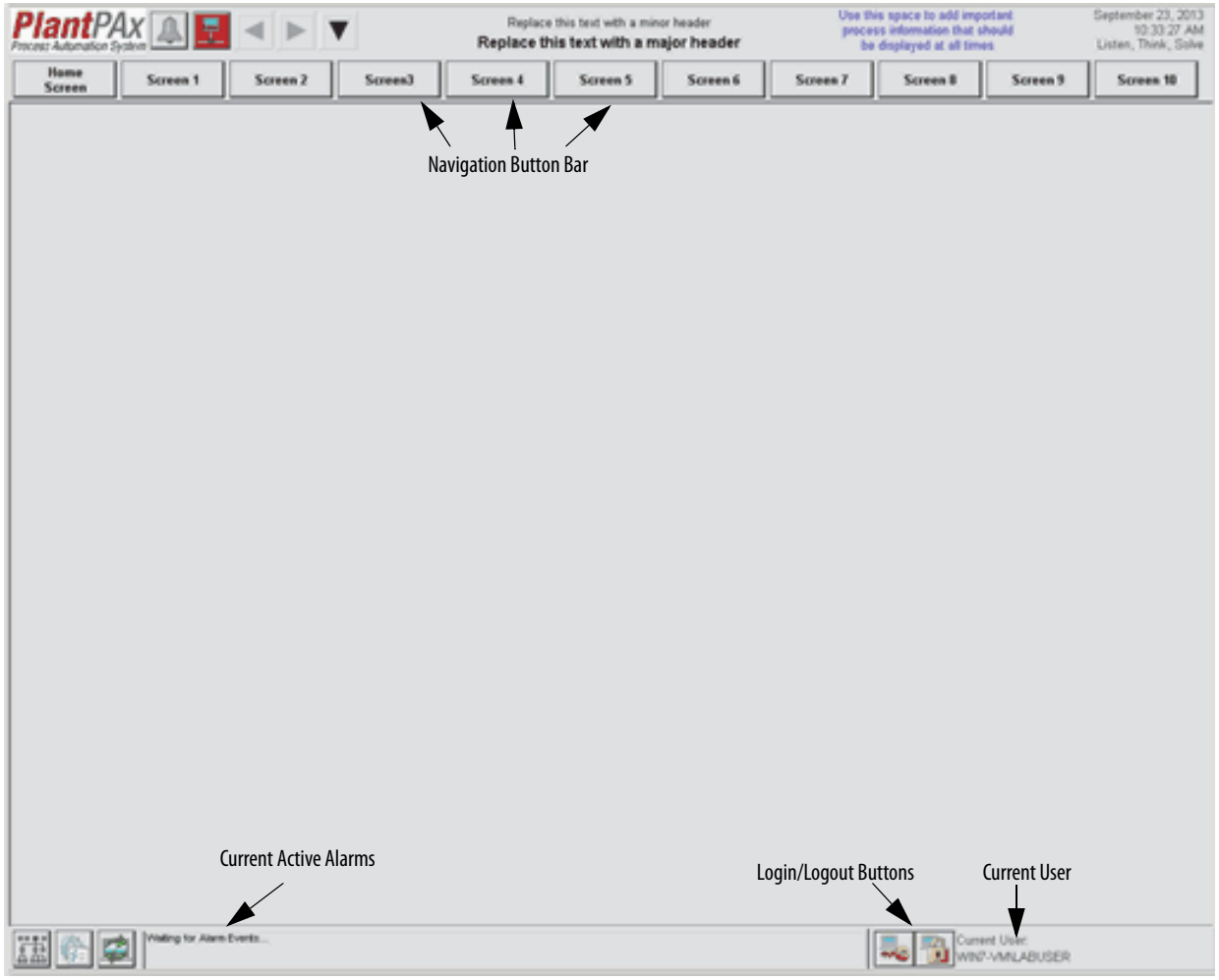


11. From the FactoryTalk View SE Client Auto Logout dialog box, click Next.

12. Click Save configuration and open FactoryTalk View SE Client now, and click Finish.


FactoryTalk View SE Client Completion Options
The FactoryTalk View SE Client is now configured.
To save, click an option below, and then click Finish.
To discard, click Cancel.
Save configuration and open FactoryTalk View SE Client now
Save configuration and exit
Help
About...
Cancel
< Back
Finish

When the client file opens, your application window (example below) appears with the layout of the selected template.



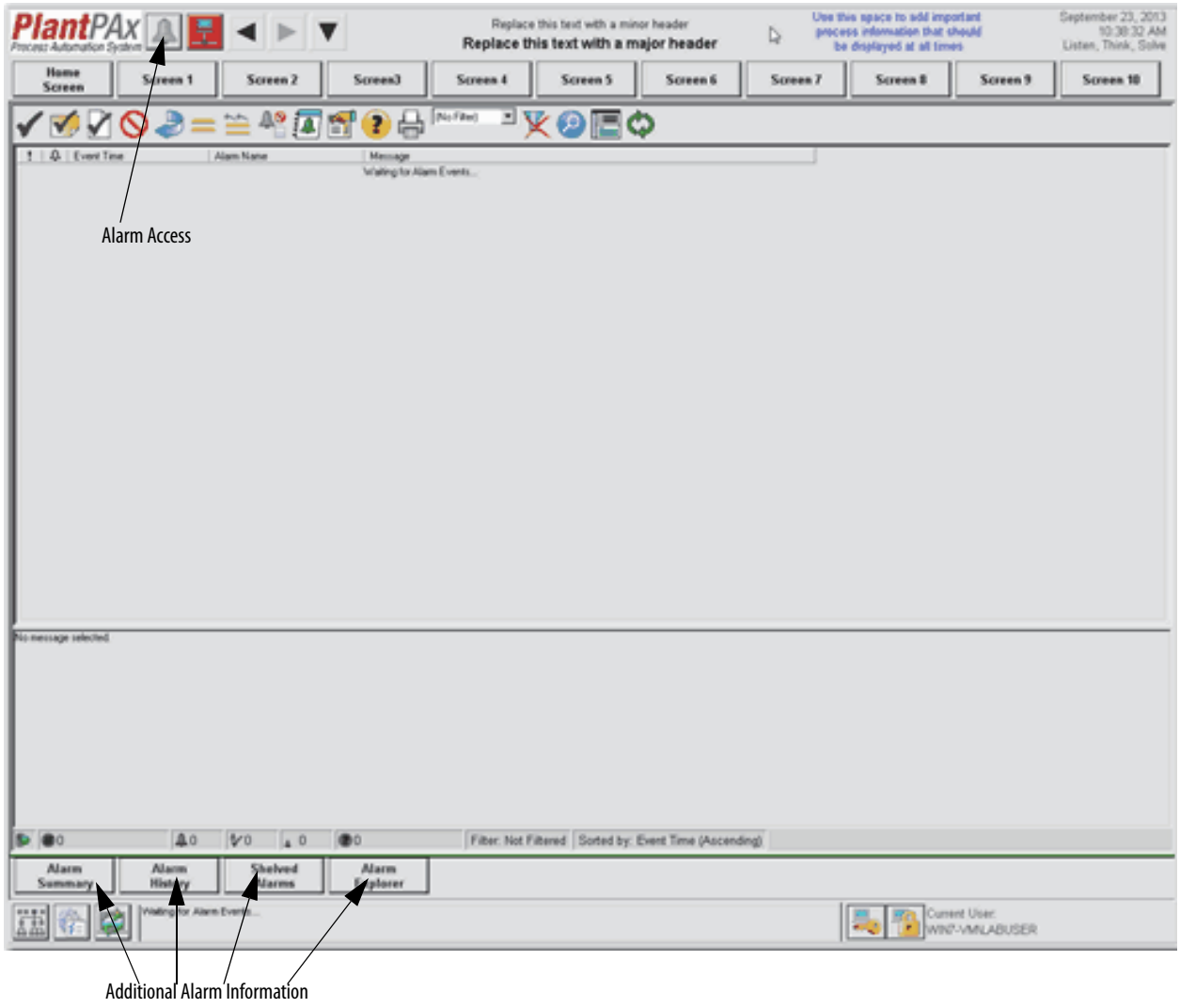
Explore Template Features

This section shows display navigation for your HMI project. We suggest you familiarize yourself with these features to enhance productivity with your templates.

IMPORTANT Actual layout varies depending on the HMI template selection and the revision being applied.

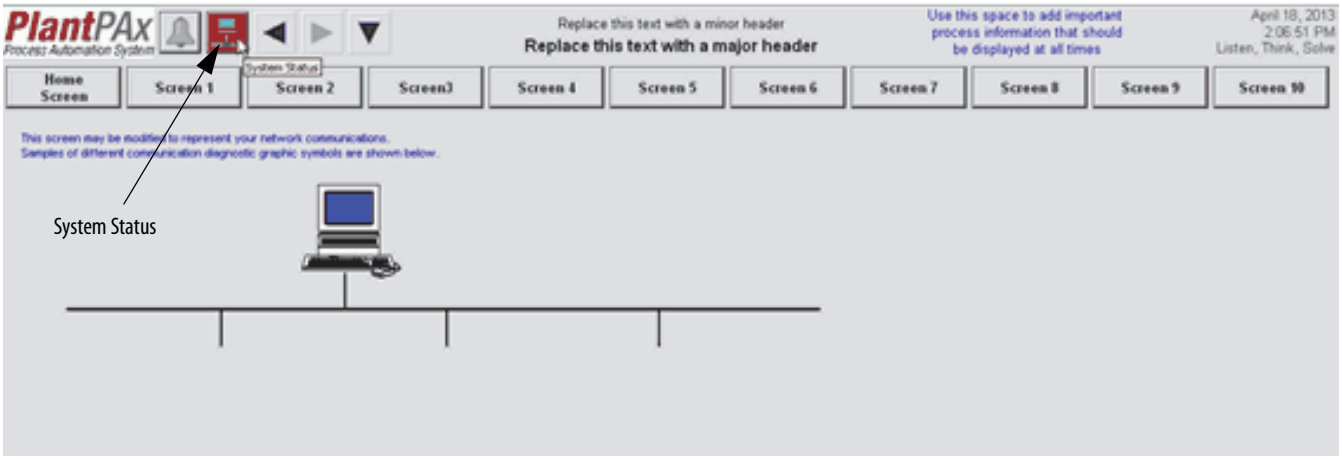
Alarm Tools

Click the bell icon to access active alarms. Additional icons appear to access an alarm summary, alarm history, shelved alarms, and an alarm explorer.



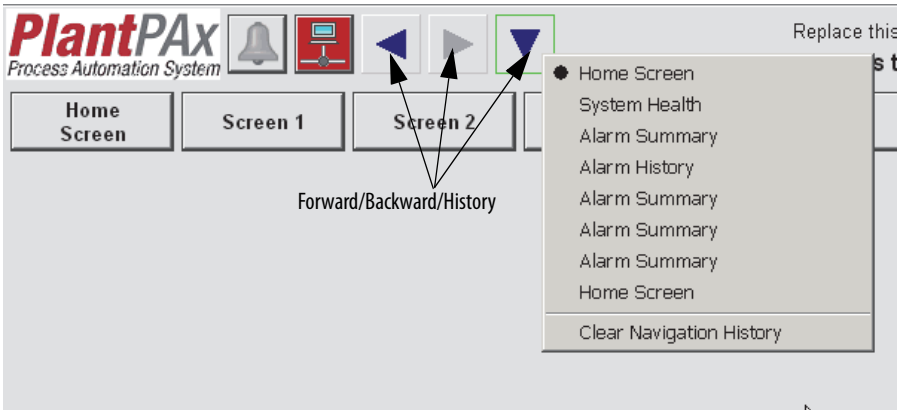
System Status

Click the System Status icon to view system diagnostics. Fort more information on diagnostics, see Chapter 4.

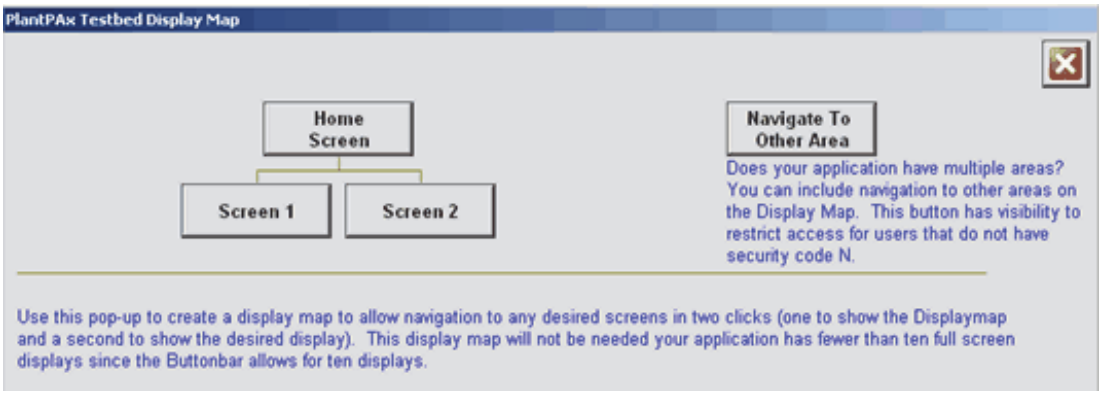


Navigation Tools

There are three quick screen navigation buttons: Next, Previous, History.



The Display Navigation Map icon lets you move around your application faster. This feature is typically used for applications that have more than 10 displays. Use the button bar (page 47) for less than 10 displays.

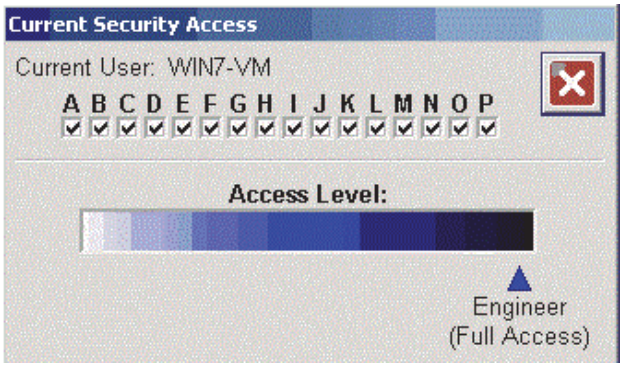

PlantPAx Testbed Display Map
Home Screen
Screen 1
Screen 2
Navigate To Other Area
Does your application have multiple areas? You can include navigation to other areas on the Display Map. This button has visibility to restrict access for users that do not have security code N.
Use this pop-up to create a display map to allow navigation to any desired screens in two clicks (one to show the Displaymap and a second to show the desired display). This display map will not be needed your application has fewer than ten full screen displays since the Buttonbar allows for ten displays.

The Administrator icon accesses information about the system including display element sizes and version numbers and security codes.

PlantPAx
Process Automation System
Replace this text with a minor header
Replace this text with a major header
Use this space to add important process information that should be displayed at all times
April 18, 2013
2:13:01 PM
Listen, Think, Solve
Home Screen
Screen 1
Screen 2
Screen3
Screen 4
Screen 5
Screen 6
Screen 7
Screen 8
Screen 9
Screen 10
Use this display a a collection point for any Administration or Application Maintenance functions. Some examples are shown.
Size?
Launches VBA funtion to return the size and position of the display. Useful during display design.
View Security
Calls a popup that shows the current security codes. Useful while testing application security
Shutdown Client
Closes the client
Global Object File Version Information
(not required for operation, but useful to verify the application is up to date)
(RA FRAME) Standard Objects.ggfx
Version 3.0.00 A Development
Standard Framework Navigation, Command, and Display Objects
Change Language to English-US
Change Language to English-Canadian

The View Security icon

accesses the Current Security Access display that shows the security level of the current user. This is a view-only display. A user's security cannot be changed from this display.



The Repaint/Repair icon can be used when making edits to an application. After a change is made, click the icon to refresh the application with the changes. This option also can be used to repaint the application if displays are not shown properly.

Add Basic System Diagnostics

In this chapter, you learn how to add controller and PASS server diagnostics to your system health screen that is provided in the HMI template. As you develop your project, you can add additional diagnostics for your system. Add These Additional Resources are listed at the end of this chapter.

Before You Begin

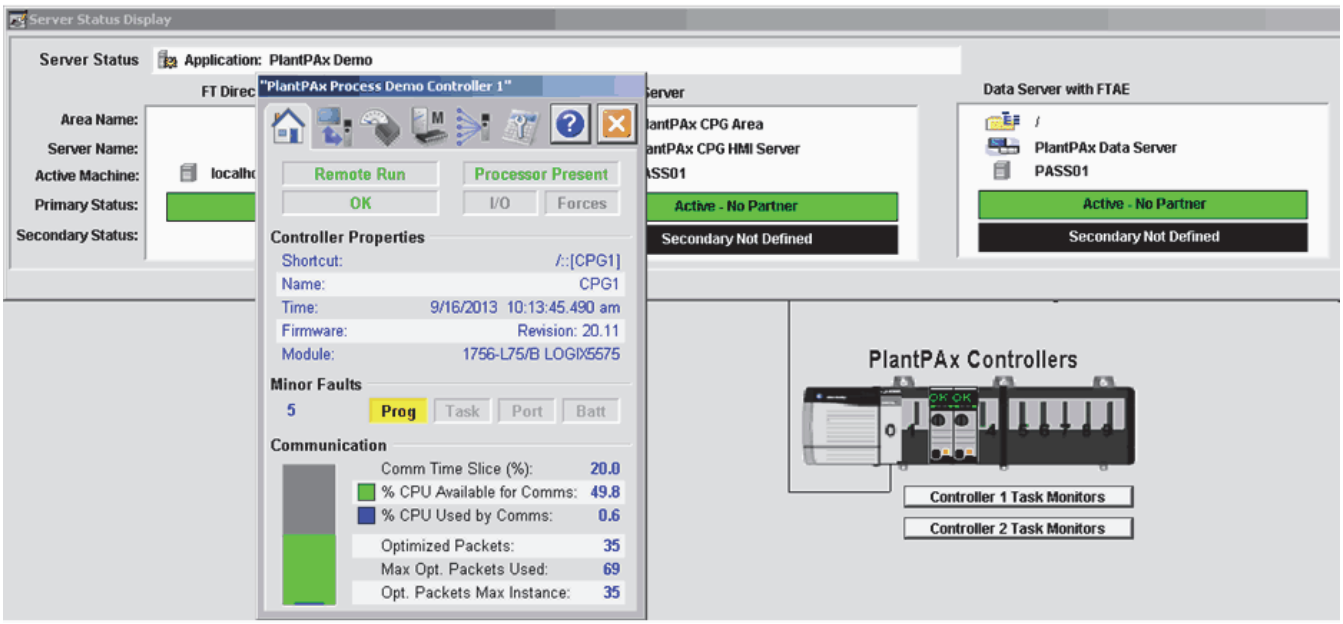
You must complete these tasks before using this chapter:

- Tasks described in Before Using This Publication on page 6
- Configure your system; see Chapter 1 and Chapter 2 for procedures
- Familiarize yourself with the HMI template; see Chapter 3 for procedures

What You Need

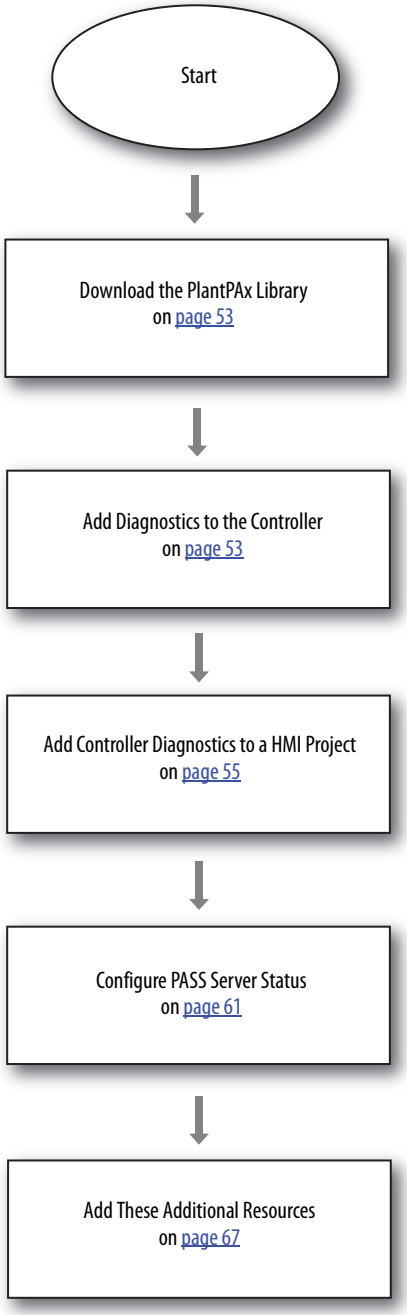
You must have RSLogix 5000 and FactoryTalk View Studio software, the HMI template, and ControlLogix controllers online to complete the tasks in this chapter.

The sample illustration shows diagnostic displays that are explored in this chapter.



Follow These Steps

These steps describe how to configure your system diagnostics.



Download the PlantPAx Library

If you have not done so already, complete the task on page 13 to download the Logix diagnostic objects from the PlantPAx Library of Process Objects.

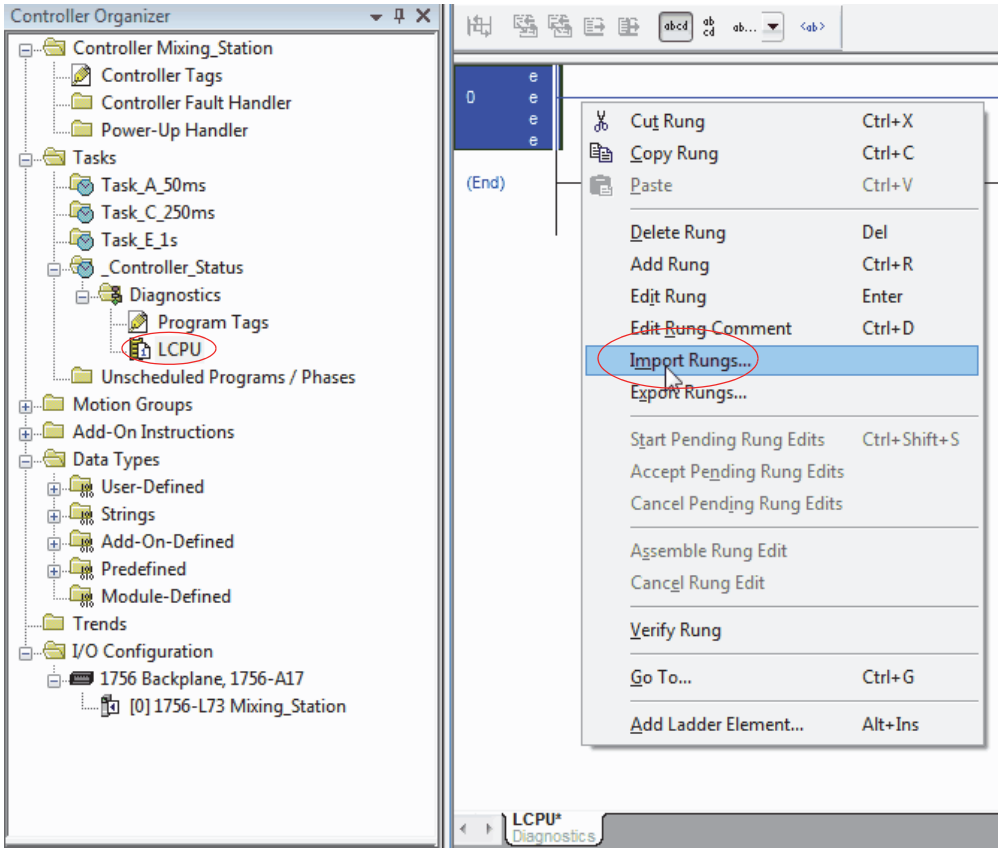
TIP The diagnostics that you need to complete tasks in the next section are distributed with the Library in the Logix Diagnostic Objects Library folder.

Add Diagnostics to the Controller

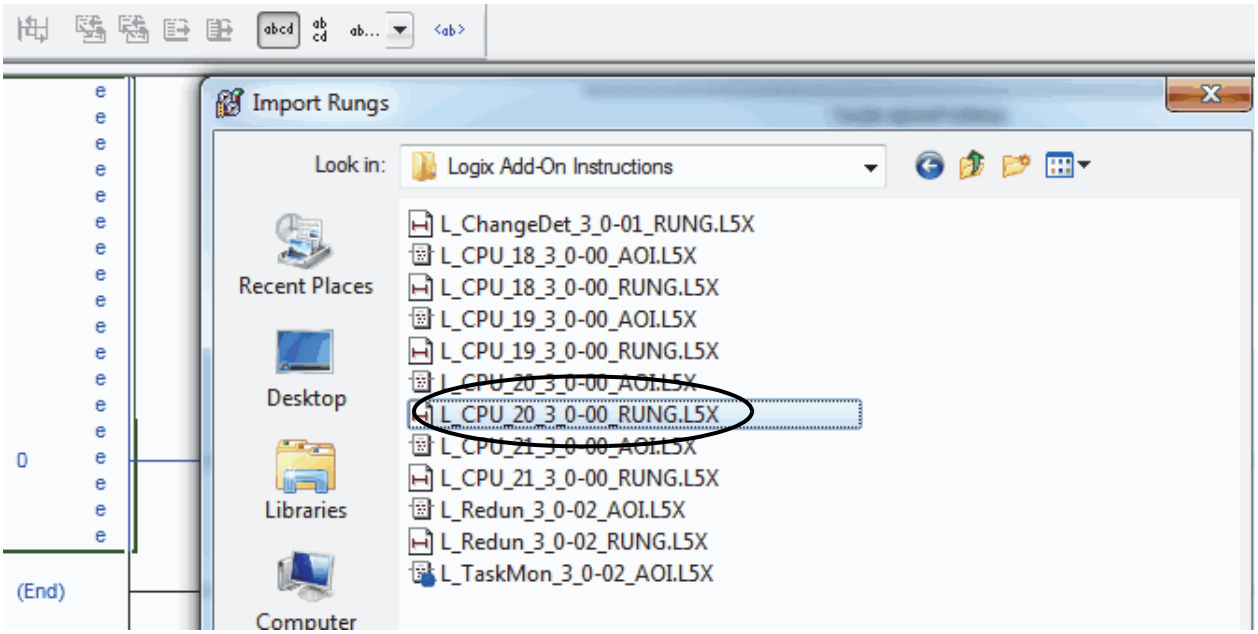
The Logix Controller CPU Utilization (L_CPU) Add-On Instruction faceplate monitors a Logix controller and provides controller information on the system status page of the HMI template. This status information includes controller CPU utilization, communication usage, memory usage, task scan times, and controller loading.

Follow these steps to add the Add-On Instruction to an online controller by using RSLogix 5000 software.

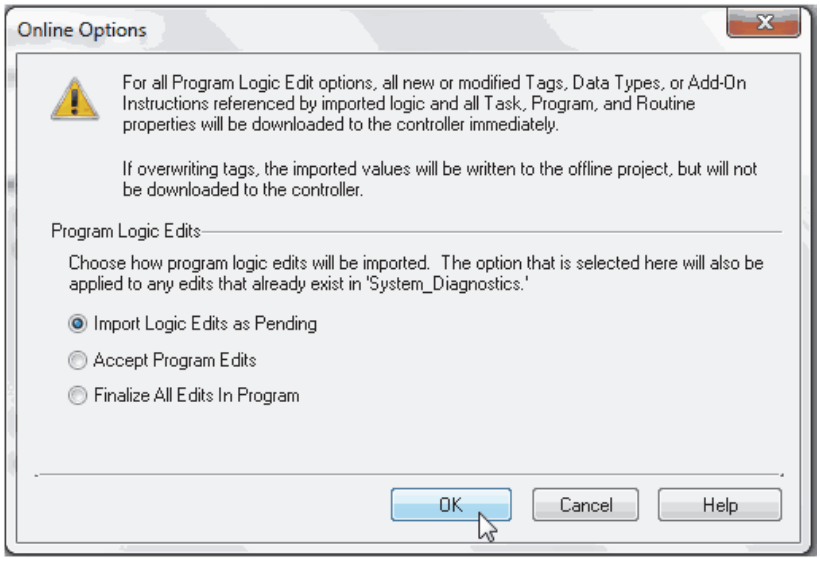
1. Open RSLogix 5000 software.
2. Open your target controller application from the saved location in step 6 on page 22.
3. From the Controller Organizer, click the '+' to expand the Controller Status task and the Diagnostics program and then double-click the LCPU routine.
4. Right-click Rung 0 and choose Import Rungs.



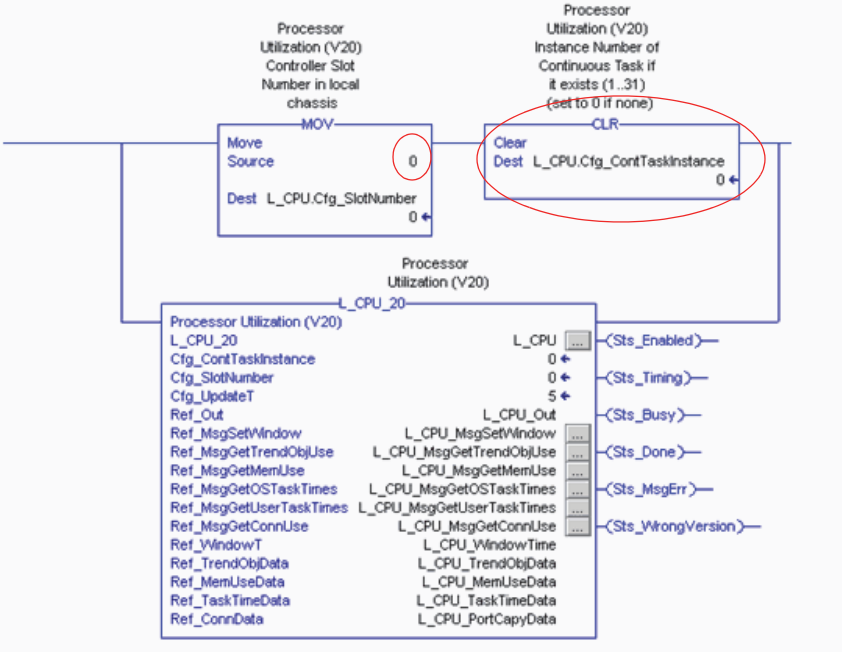
5. Select the L_CPU L5X file based on your controller revision and click Import.



6. On the Import Configuration dialog box, click OK to create all of the tags and data types that are required for the Add-On Instruction.
7. Click Import Logic Edits as Pending and click OK.


Online Options
For all Program Logic Edit options, all new or modified Tags, Data Types, or Add-On Instructions referenced by imported logic and all Task, Program, and Routine properties will be downloaded to the controller immediately.
If overwriting tags, the imported values will be written to the offline project, but will not be downloaded to the controller.
Program Logic Edits
Choose how program logic edits will be imported. The option that is selected here will also be applied to any edits that already exist in 'System_Diagnostics.'
Import Logic Edits as Pending
Accept Program Edits
Finalize All Edits In Program
OK
Cancel
Help

8. Type the controller slot number in the MOV instruction.
9. Change the GSV instruction to a CLR instruction that is configured as shown in the illustration.

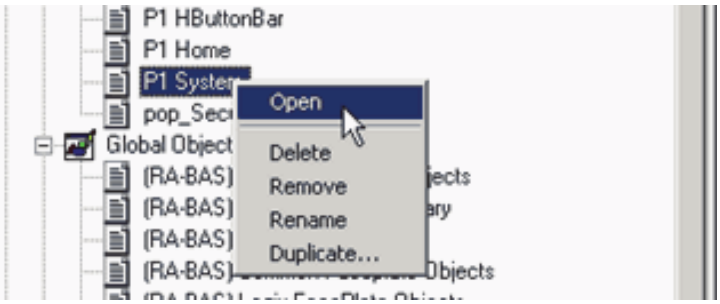


10. Click the Finalize All Edits in Program icon .
11. Click Yes to finalize all of the edits.

Add Controller Diagnostics to a HMI Project

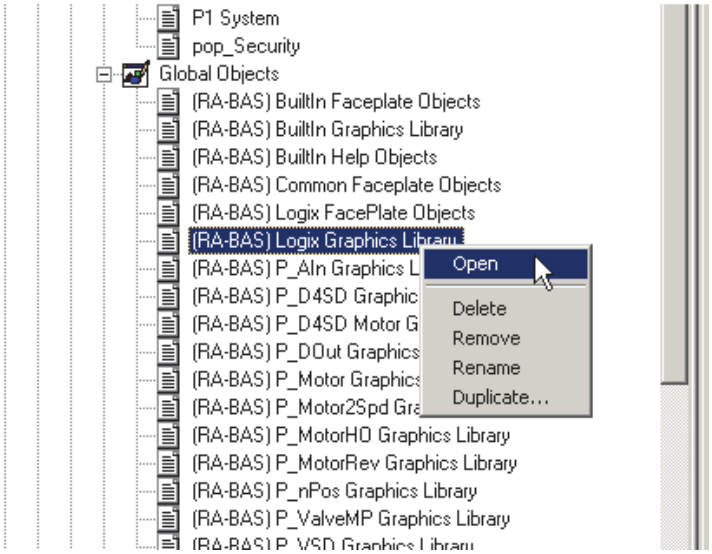
Follow these steps to add controller diagnostics to your HMI project.

1. Open the project that you created in Chapter 2 in the FactoryTalk View Studio software. See page 29.
2. Load the required HMI files for the L_CPU Add-On Instruction as documented in the PlantPAx Library of Logix Diagnostic Objects Reference Manual, publication PROCES-RM003.
3. From your HMI project, right-click a system diagnostic display (for example, P1f System) from the template and choose Open.

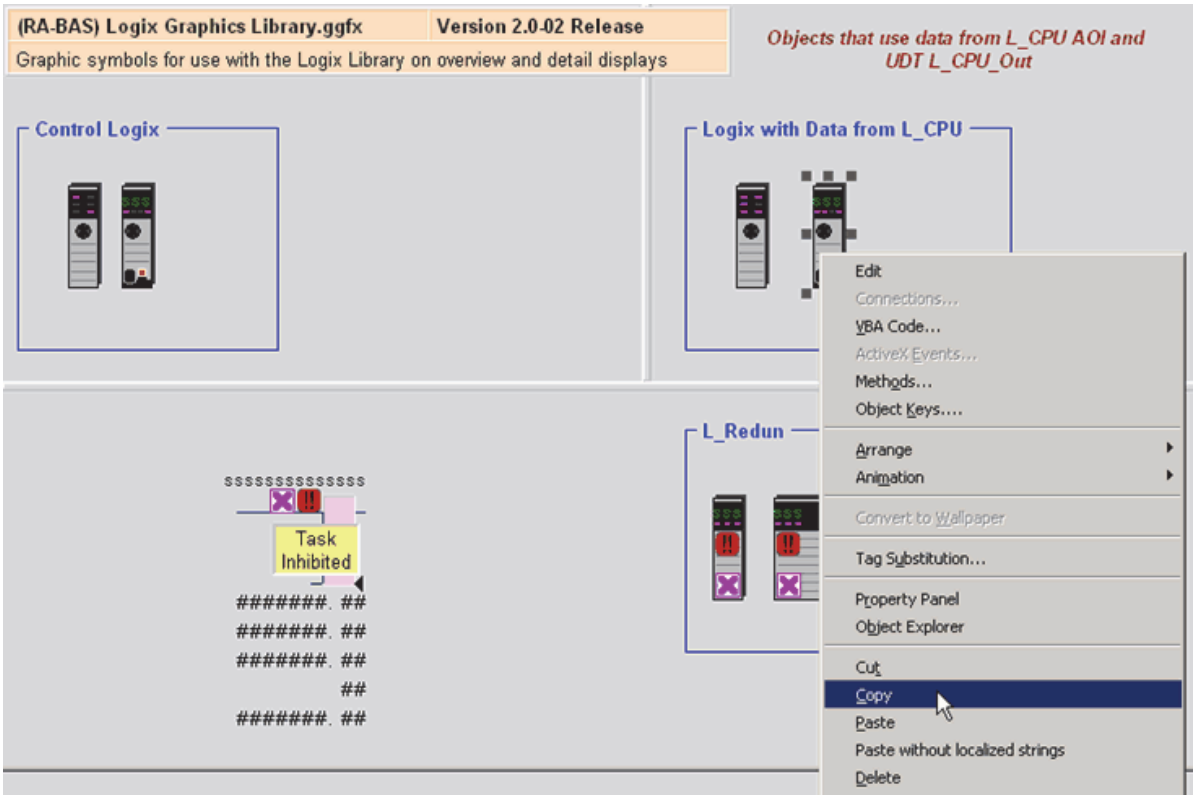


See page 43 for descriptions of the components in a HMI project.

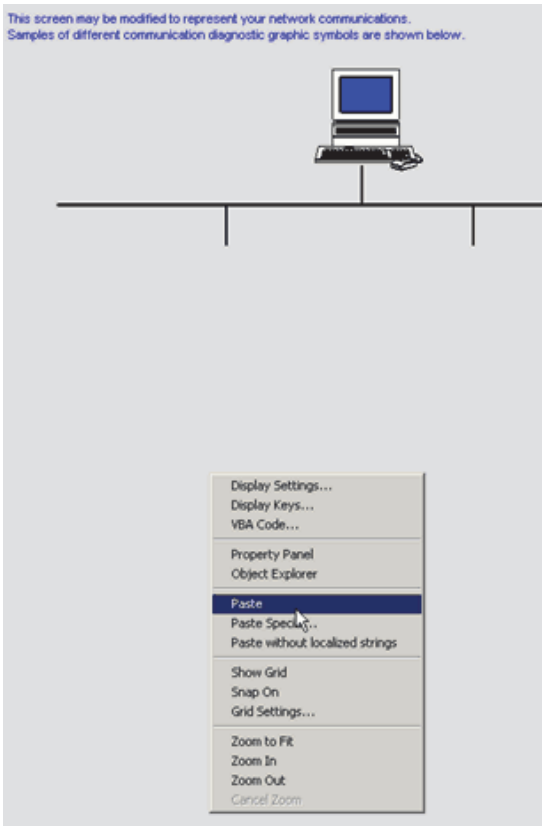
4. From your HMI project, right-click Logix Graphics Library and choose Open.



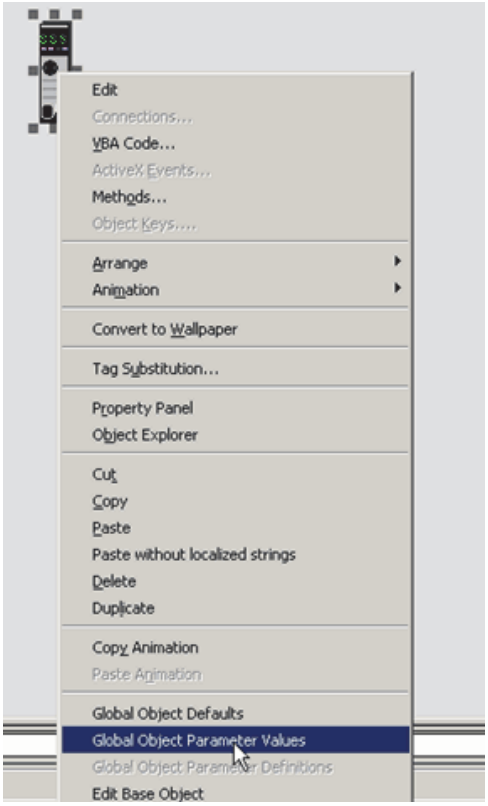
5. Right-click the controller graphic in the L_CPU box and choose Copy.



6. On the P1f System display, right-click anywhere in the window and choose Paste.

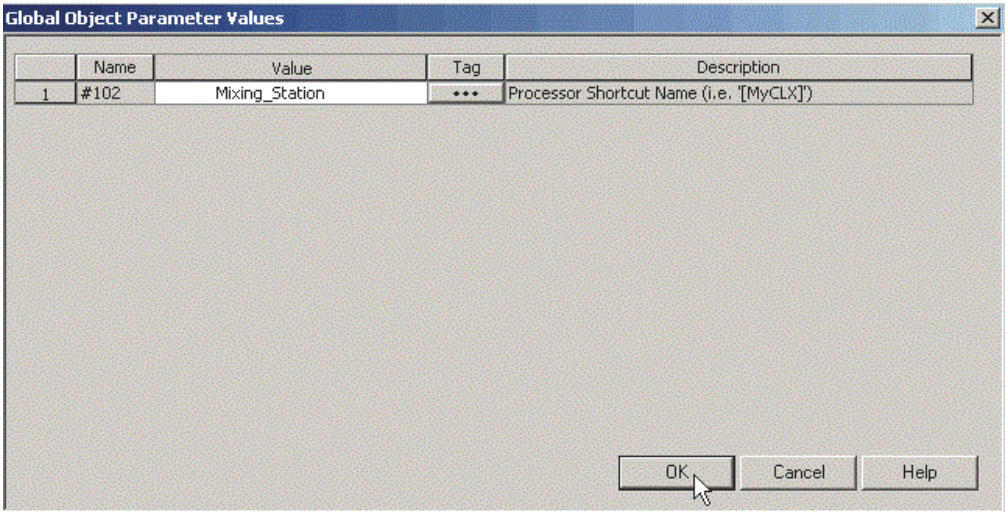


7. Right-click the L_CPU graphics on the P1 System display and choose Global Object Parameter Values.

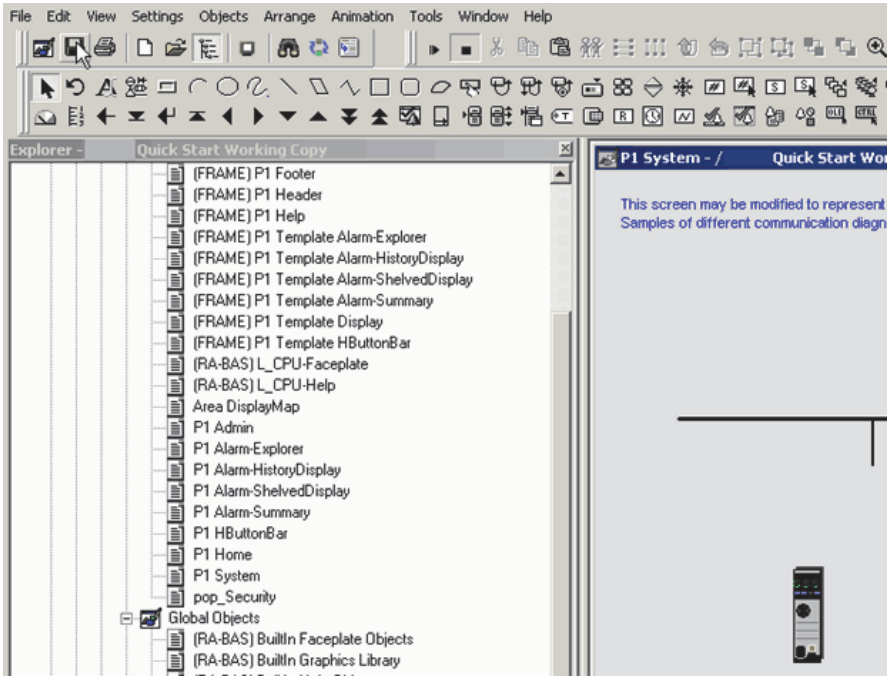


8. Type a shortcut name for the controller and click OK.

   TIP Make sure that you put the controller name inside brackets [ ] as shown.

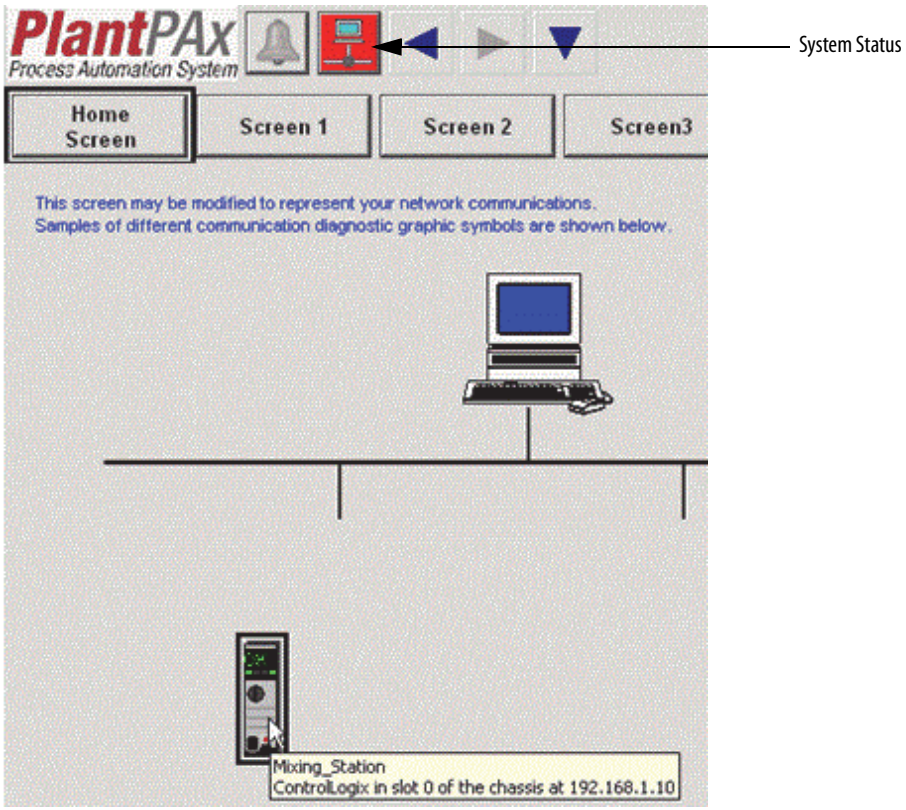


9. Save the display.



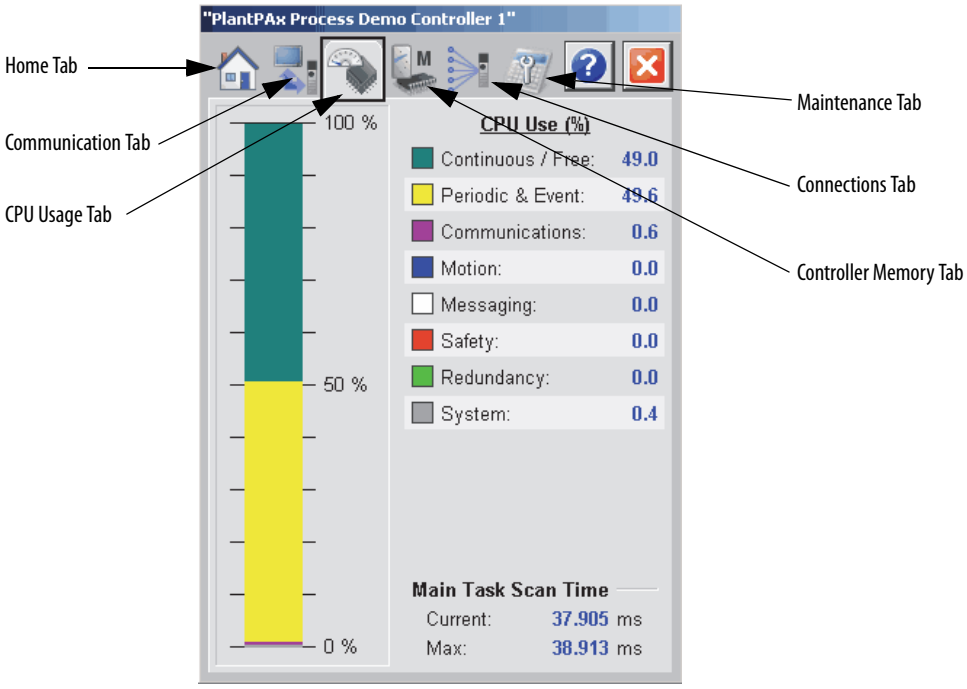
10. Open the HMI template that you created in Chapter 3.

11. On the HMI display, click the System Status icon.



On the HMI template, the controller graphic has some animation showing the position of the key switch and controller status indicators.

12. Click the controller to access the controller status faceplate.

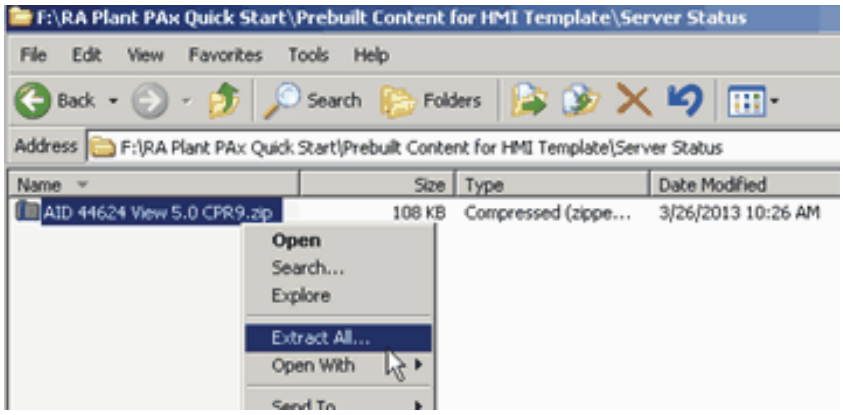


Tabs on the faceplate also include information on the CPU usage and the status of controller memory and connections. For complete details, see the PlantPAx Library of Logix Diagnostic Objects, publication PROCES-RM003.

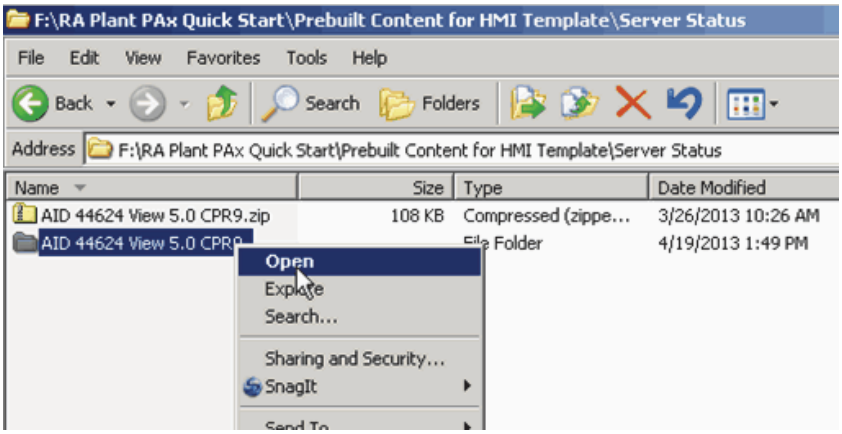
Configure PASS Server Status

In this section, you learn how to add diagnostics for your PASS servers. These diagnostics provide information on the software components that run on the PASS, including a HMI server, data server, and alarms and events server.

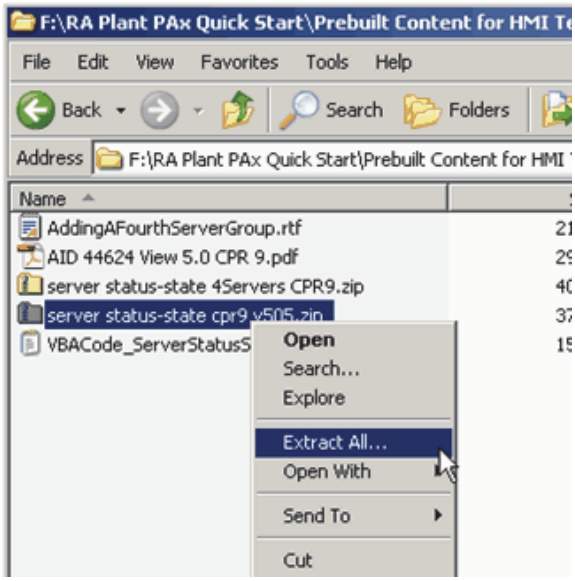
1. Open Knowledgebase Answer ID 44624 at http://rockwellautomation.custhelp.com and download the zip attachment.


F:\RA Plant PAx Quick Start\Prebuilt Content for HMI Template\Server Status
File Edit View Favorites Tools Help
Back Search Folders
Address F:\RA Plant PAx Quick Start\Prebuilt Content for HMI Template\Server Status
Name Size Type Date Modified
AID 44624 View 5.0 CPR9.zip 108 KB Compressed (zippe... 3/26/2013 10:26 AM
Open
Search...
Explore
Extract All...
Open With

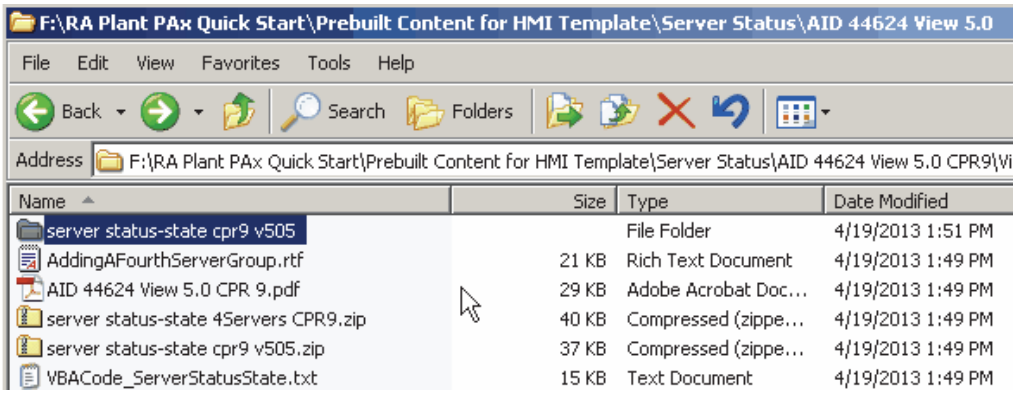
2. Right-click the file and choose Open.


F:\RA Plant PAx Quick Start\Prebuilt Content for HMI Template\Server Status
File Edit View Favorites Tools Help
Back Search Folders
Address F:\RA Plant PAx Quick Start\Prebuilt Content for HMI Template\Server Status
Name Size Type Date Modified
AID 44624 View 5.0 CPR9.zip 108 KB Compressed (zippe... 3/26/2013 10:26 AM
AID 44624 View 5.0 CPR9 File Folder 4/19/2013 1:49 PM
Open
Explore
Search...
Sharing and Security...
SnagIt

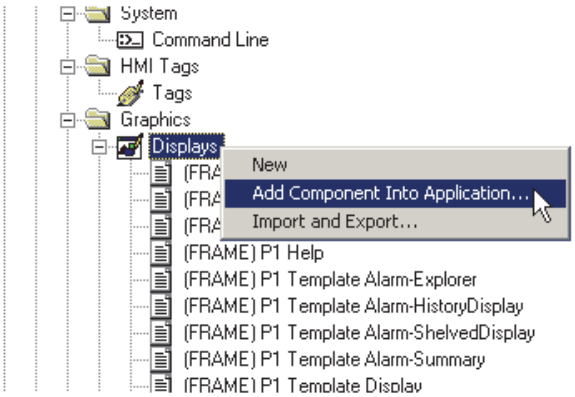
3. Right-click server status-state cpr9 and choose Extract All.



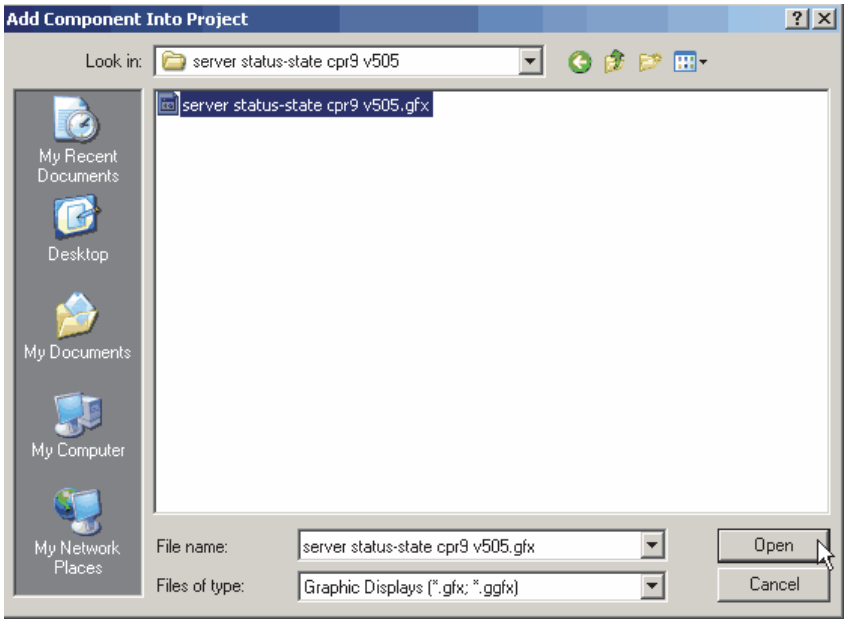
The example shows the unzipped files.


F:\RA Plant PAx Quick Start\Prebuilt Content for HMI Template\Server Status\AID 44624 View 5.0
File Edit View Favorites Tools Help
Back Search Folders
Address F:\RA Plant PAx Quick Start\Prebuilt Content for HMI Template\Server Status\AID 44624 View 5.0 CPR9\Vi
Name Size Type Date Modified
server status-state cpr9 v505 File Folder 4/19/2013 1:51 PM
AddingAFourthServerGroup.rtf 21 KB Rich Text Document 4/19/2013 1:49 PM
AID 44624 View 5.0 CPR 9.pdf 29 KB Adobe Acrobat Doc... 4/19/2013 1:49 PM
server status-state 4Servers CPR9.zip 40 KB Compressed (zippe... 4/19/2013 1:49 PM
server status-state cpr9 v505.zip 37 KB Compressed (zippe... 4/19/2013 1:49 PM
VBACode_ServerStatusState.txt 15 KB Text Document 4/19/2013 1:49 PM

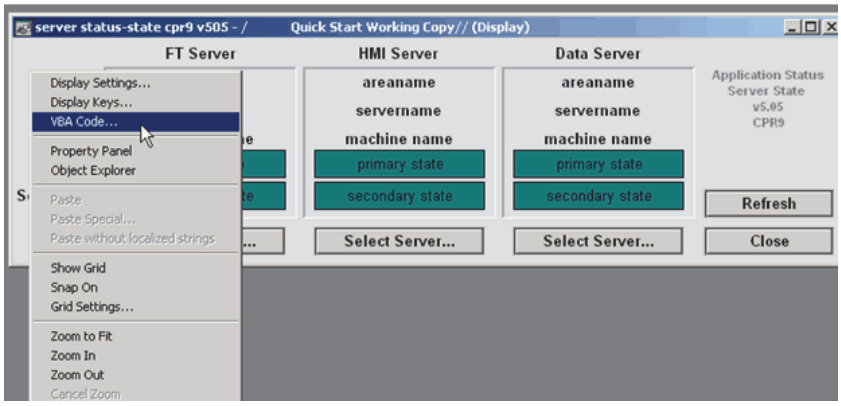
4. In the FactoryTalk View HMI template, right-click Displays and choose Add Component Into Application.



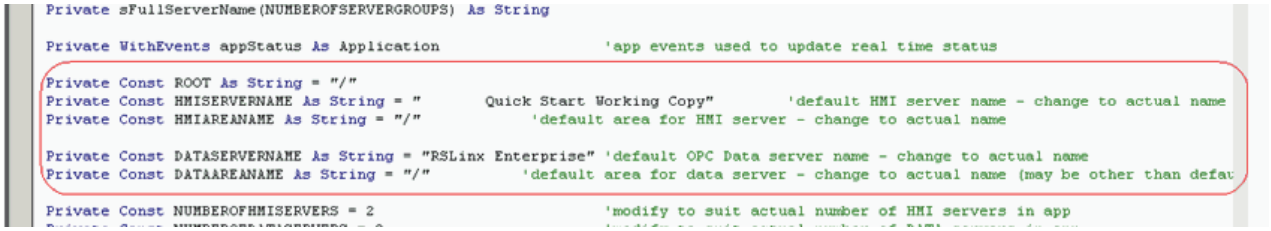
5. Open the server status-state cpr9 V505.gfx file from the files that were unzipped in step 3.



6. Right-click the imported display and choose VBA Code.



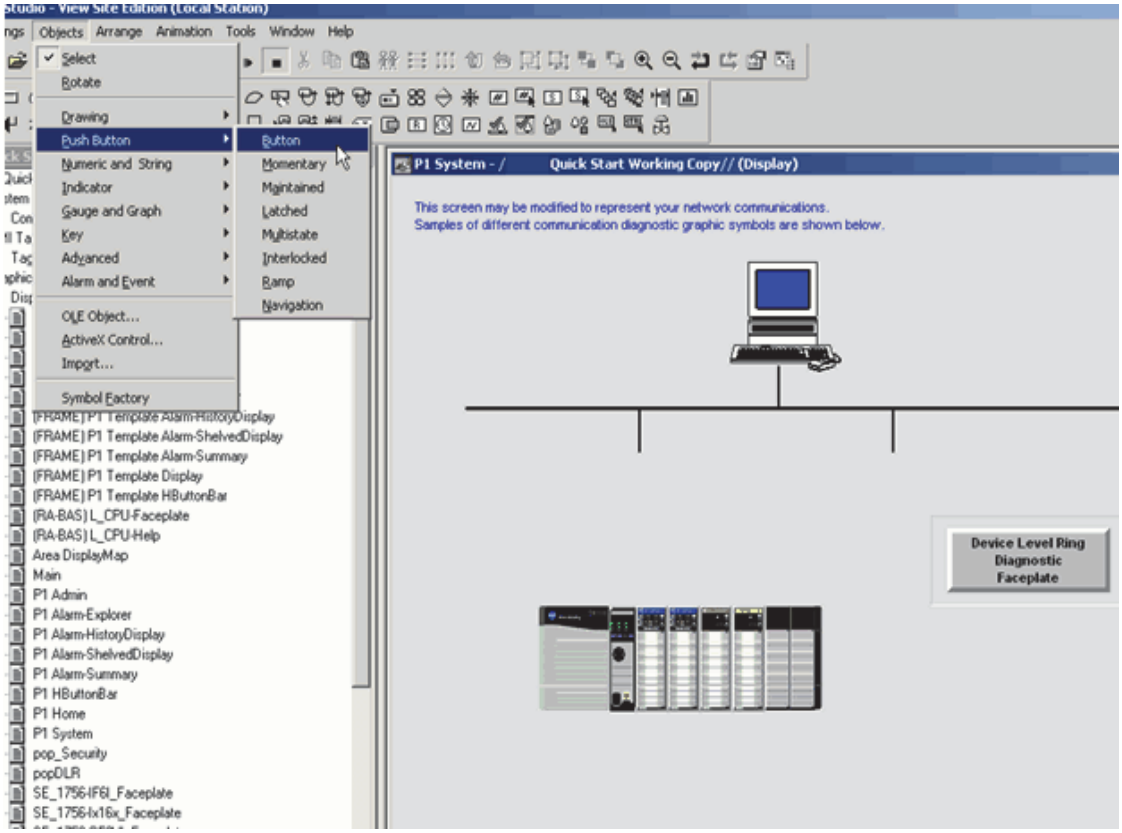
7. Find the text circled in the example and type the name of your HMI server and data server.


Private sFullServerName(NUMBEROFSERVERGROUPS) As String
Private WithEvents appStatus As Application 'app events used to update real time status
Private Const ROOT As String = "/"
Private Const HMISERVERNAME As String = " Quick Start Working Copy" 'default HMI server name - change to actual name
Private Const HMIAREANAME As String = "/" 'default area for HMI server - change to actual name
Private Const DATASERVERNAME As String = "RSLinx Enterprise" 'default OPC Data server name - change to actual name
Private Const DATAAREANAME As String = "/" 'default area for data server - change to actual name (may be other than defau
Private Const NUMBEROFHMISERVERS = 2 'modify to suit actual number of HMI servers in app

8. Save the changes to the VBA code and close the server status display.
9. Open a system display.

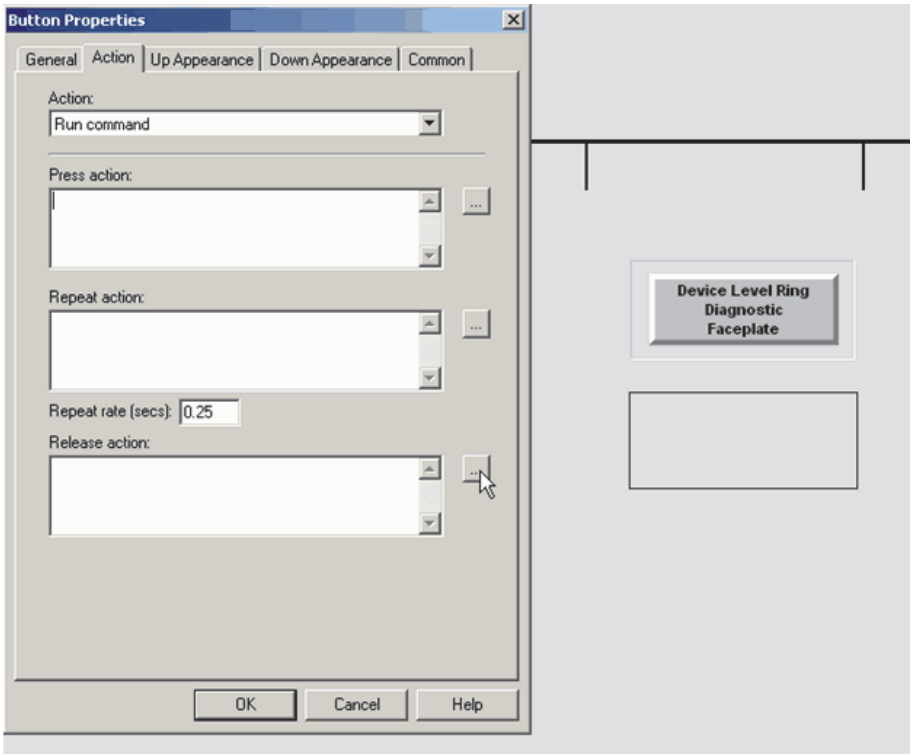
   For example, P1*x*.

10. From the Objects menu, choose Push Button>Button.

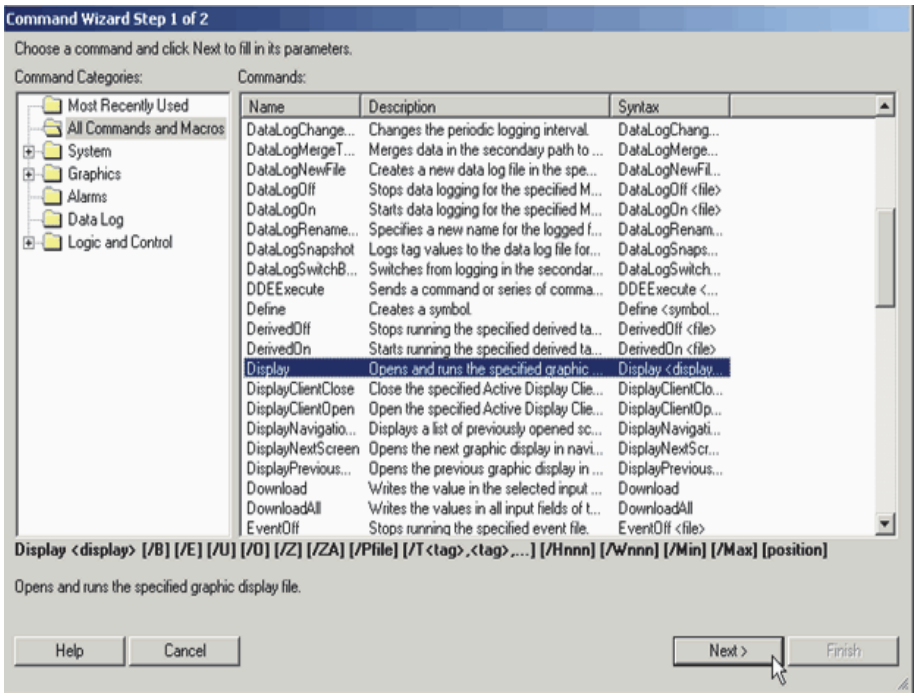


11. Click the display and drag the mouse to draw a button.

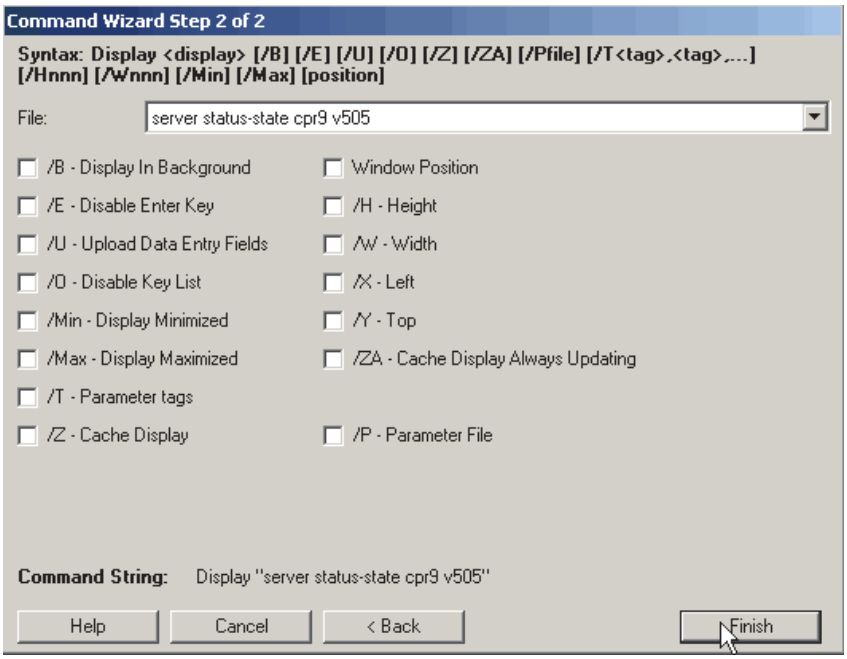
12. Click Browse (...) next to Release action.



13. From the All Commands and Macros list, select Display and click Next.

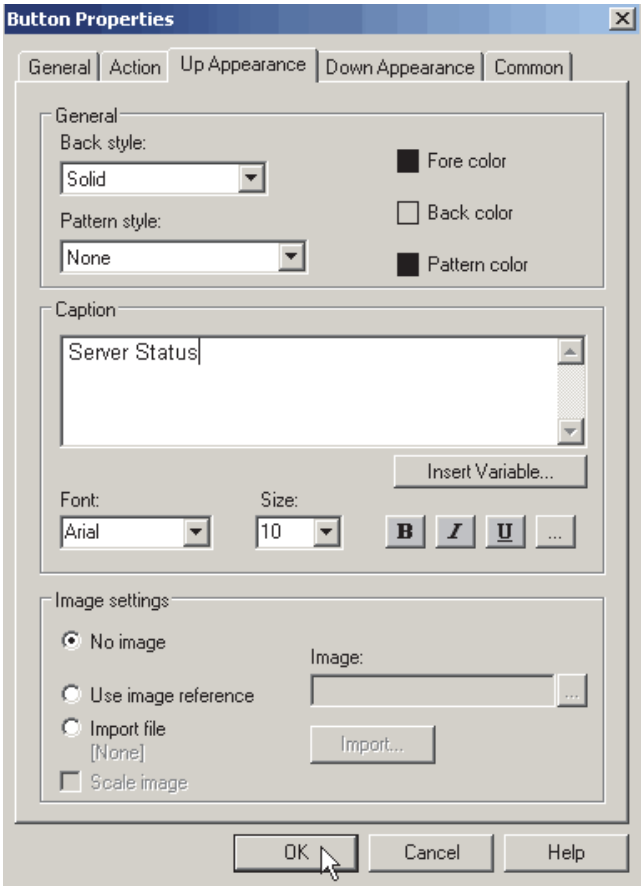


14. From the File pull-down menu, choose the server status screen.

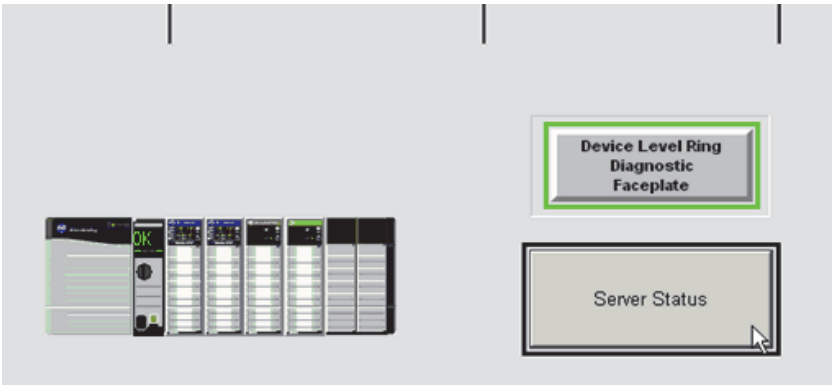

Command Wizard Step 2 of 2
Syntax: Display <display> [/B] [/E] [/U] [/O] [/Z] [/ZA] [/Pfile] [/T<tag>,<tag>,...] [/Hnnn] [/Wnnn] [/Min] [/Max] [position]
File:
server status-state cpr9 v505
/B - Display In Background
/E - Disable Enter Key
/U - Upload Data Entry Fields
/O - Disable Key List
/Min - Display Minimized
/Max - Display Maximized
/T - Parameter tags
/Z - Cache Display
Window Position
/H - Height
/W - Width
/X - Left
/Y - Top
/ZA - Cache Display Always Updating
/P - Parameter File
Command String:
Display "server status-state cpr9 v505"
Help
Cancel
< Back
Finish

15. Click Finish.

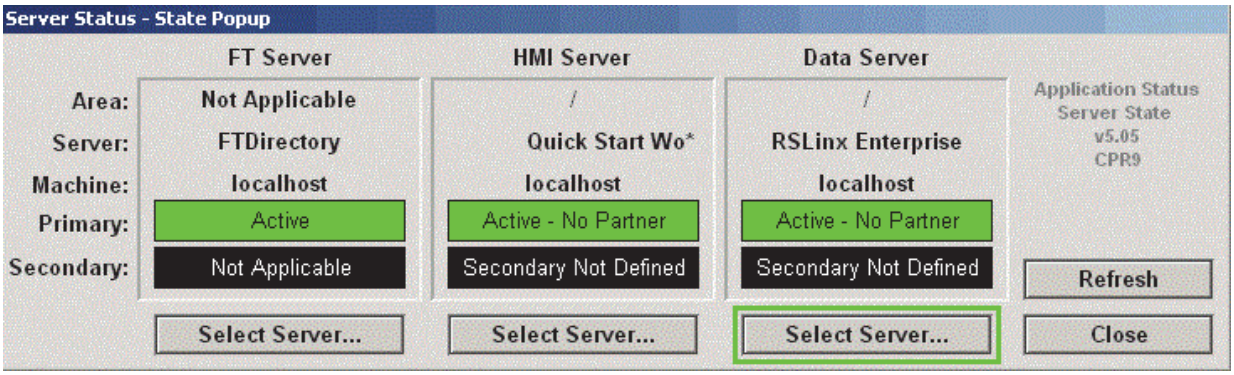
16. On the Button Properties dialog box, click the Up Appearance tab.
17. In the Caption text box, type Server Status.



18. Click OK.
19. Save the changes to the P1 System display.
20. Run the client file and access the System Status page.
21. Click Server Status.



The Server Status faceplate appears.



The example shows a networked station application with the FactoryTalk server, HMI server, and data server on one workstation. None of the servers is redundant in this application example.

TIP We recommend that diagnostic alarms for network adapters and I/O modules be added to the Alarm server to be displayed on the alarm banner and included in the alarm log and history.

Add These Additional Resources

The following resources are available to assist with developing your application.

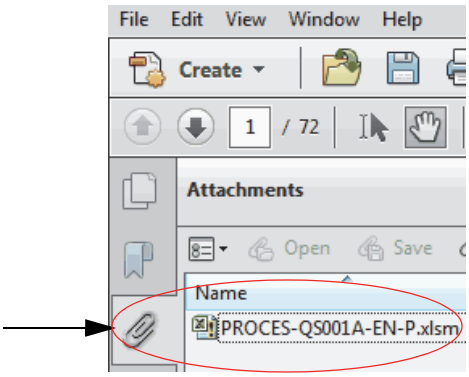
Topic	Description	Where To Find Information
DLR diagnostics	The device-level ring (DLR) faceplate shows network status and where a break is in the EtherNet/IP network.	The DLR diagnostics faceplate application can be downloaded from the Rockwell Automation Sample Code website at http://samplecode.rockwellautomation.com
L_ChangeDet, L_Redun, L_TaskMon library objects	These PlantPAx Library of Logix Diagnostic Objects monitor Logix controllers on the network, checking for changes that impact operation for primary and secondary controller status.	PlantPAx Library of Logix Diagnostic Objects, publication PROCES-RM003

Notes:

Access the Quick Start Worksheet

The Microsoft Excel file attached to this PDF file contains a worksheet that you can use to gather information required for executing the quick start.

To use the Excel file, click the Attachments link (the paper clip icon) and double-click the Excel file.

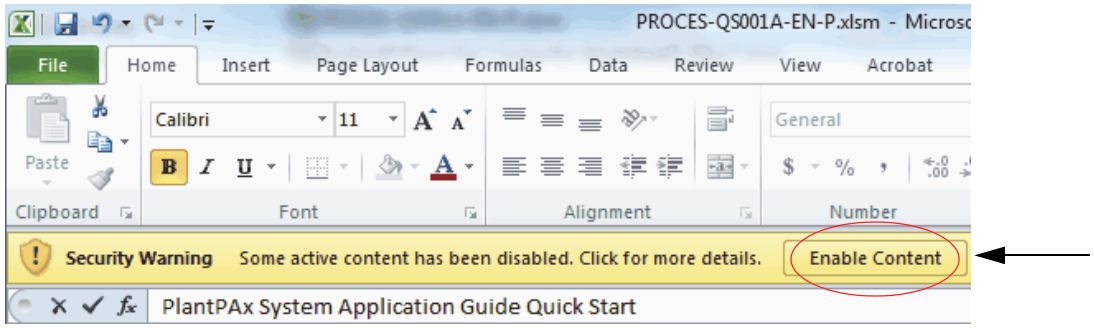


Enable Content

Verify that macros are enabled when using the file.

If this is the first time you are opening a Microsoft Excel file, you need to enable macros, if prompted.

Click Enable Content.


PROCES-QS001A-EN-P.xlsm - Microsc
File Home Insert Page Layout Formulas Data Review View Acrobat
Calibri 11
General
Paste
Clipboard Font Alignment Number
Security Warning Some active content has been disabled. Click for more details.
Enable Content
PlantPAx System Application Guide Quick Start

Using the Worksheet

The worksheet is a macro-enabled spreadsheet that contains entry fields. As information is entered, additional entry fields are dynamically created to collect more information.Where possible, some fields are auto-populated and entries are verified automatically.

When completed, the worksheet **must** be saved as an Excel workbook (.xlsm) without the macros enabled. Select the Edit Your Setup button (circled in Figure 8) and the File menu appears to let you save your data. You can then edit the worksheet manually.

The separate portions of the worksheet shown are examples of the information that can be documented for the controllers and PASS servers.

Figure 6 - Controllers Worksheet

Controller Worksheet

How many controllers are in the system?*	1

Controller Information

Controller Name*	Type**	Revision*	Slot*	Local Chassis Size**	# of Tasks*	Redundant**
Mixing_Station	1756-L73	20	0	4	3	No

Program Structure

All Tasks within PlantPAx are Periodic

Controller Name	Task Time**	Task Name
Mixing_Station		
Task 1	50ms	Task_A_50ms
Task 2	100ms	Task_B_100ms
Task 3	250ms	Task_C_250ms

Figure 7 - Controller Detail Worksheet

Controller Information

Controller Name	Type	Revision	Slot Number	Local Chassis Size	Redundant	Serial Number
Mixing_Station	1756-L73	20	0	4	No	

		Slot Number*
Supervisory Network Module	1756-EN2T	1
I/O Network Module	1756-EN2T	2

Local Rack Information

Slot	Controller Name	Type	RPI Time (ms)	Revision	IP Address/Node	Subnet Mask	Serial Number
0	Mixing_Station	1756-L73		20			
1	Mixing_Station	1756-EN2T			10.12.1.101	255.255.255.0	
2	Mixing_Station	1756-EN2T			192.168.1.101	255.255.255.0	
3	Mixing_Station	Empty					

How Many Remote Network Devices(Remote Chas	2

Remote IO Layout

Chassis Name	DC_Input_Slot_3
I/O Type**	1756 Control Logix
Chassis Size**	4
Node#/IP Address	192.168.1.101
Subnet Mask	255.255.255.0
Rack Optimized**	Yes
Rack RPI Time(ms)	50

Slot #	IO Module	RPI Time(ms)
0		
1		
2	1756-EN2T	50
3		

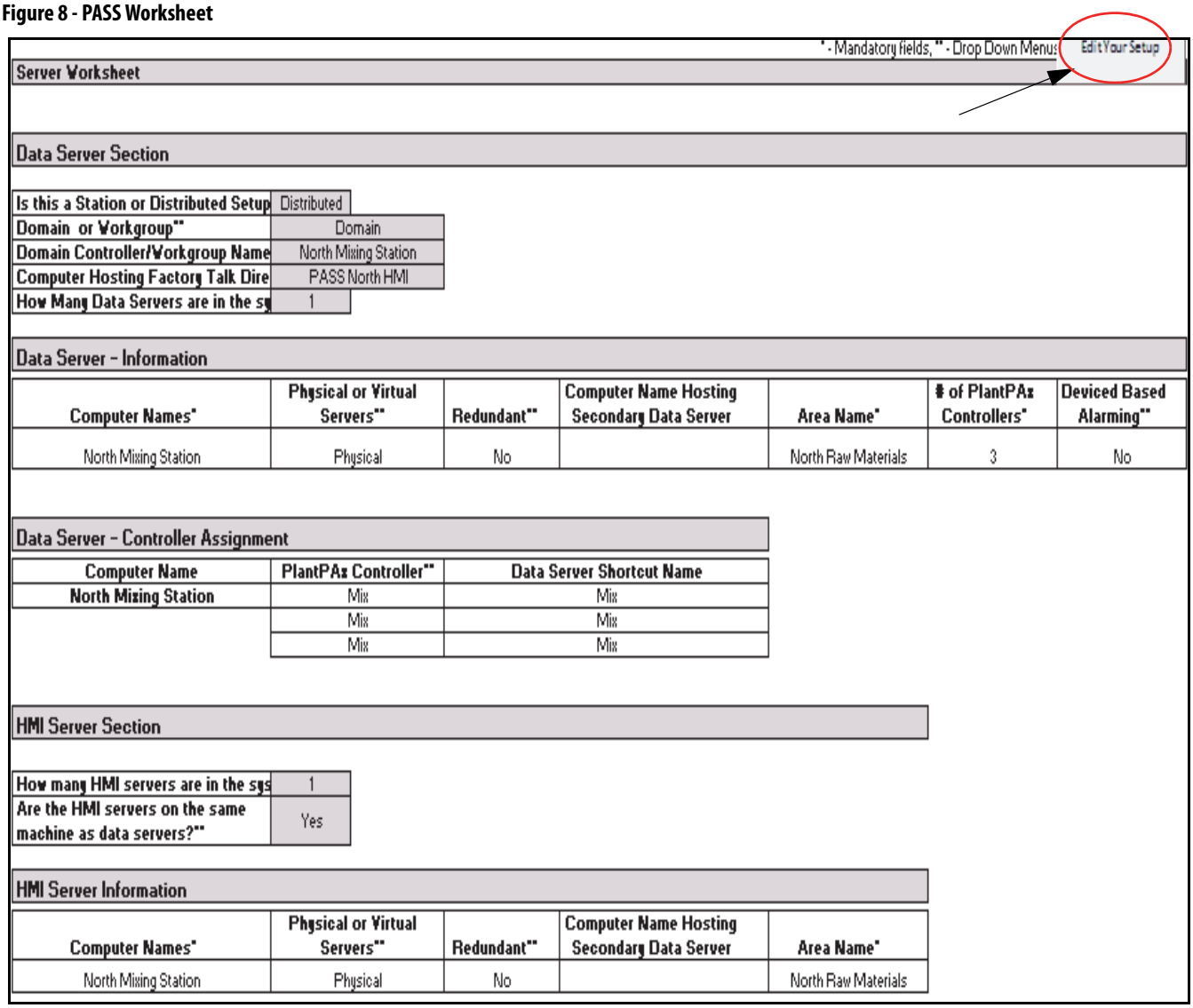
Chassis Name	AI_Slot_4_Hart
I/O Type**	1756 Control Logix
Chassis Size**	4
Node#/IP Address	192.168.1.101
Subnet Mask	255.255.255.0
Rack Optimized**	Yes
Rack RPI Time(ms)	50

Slot #	IO Module	RPI Time(ms)
0		
1		
2	1756-EN2T	50
3		

Program Structure

Control	Task Time**	Task Name
Mixing_Station		
Task 1	50ms	Task_A_50ms
Task 2	100ms	Task_B_100ms
Task 3	250ms	Task_C_250ms

Figure 8 - PASS Worksheet



* - Mandatory fields, ** - Drop Down Menus

Edit Your Setup

Server Worksheet

Data Server Section

Is this a Station or Distributed Setup	Distributed
Domain or Workgroup**	Domain
Domain Controller/Workgroup Name	North Mixing Station
Computer Hosting Factory Talk Dire	PASS North HMI
How Many Data Servers are in the sy	1

Data Server - Information

Computer Names*	Physical or Virtual Servers**	Redundant**	Computer Name Hosting Secondary Data Server	Area Name*	# of PlantPAx Controllers*	Deviced Based Alarming**
North Mixing Station	Physical	No		North Raw Materials	3	No

Data Server - Controller Assignment

Computer Name	PlantPAx Controller**	Data Server Shortcut Name
North Mixing Station	Mix	Mix
	Mix	Mix
	Mix	Mix

HMI Server Section

How many HMI servers are in the sys	1
Are the HMI servers on the same machine as data servers?**	Yes

HMI Server Information

Computer Names*	Physical or Virtual Servers**	Redundant**	Computer Name Hosting Secondary Data Server	Area Name*
North Mixing Station	Physical	No		North Raw Materials

Figure 9 - PASS Worksheet (continued)

Alarm Server Section

How many Alarm servers are in the s	1
Are the Alarm servers on the same machine as data servers?**	Yes

Alarm Server Information

Computer Names*	Physical or Virtual Servers**	Redundant**	Computer Name Hosting Secondary Data Server	Area Name*
North Mixing Station	Physical	No		North Raw Materials

Client Computer Section

How many OWS are in the system?*	10
How many EWS are in the system?*	2

OWS Computer Information

OWS Computer Names	Screen Resolution	umber of Monitors
OWS1	1280x1024	2
OWS2	1280x1024	2
OWS3	1280x1024	2
OWS4	1280x1024	2
OWS5	1280x1024	2
OWS6	1280x1024	2
OWS7	1280x1024	2
OWS8	1280x1024	2
OWS9	1280x1024	2
OWS10	1280x1024	2

EWS Computer Information

EWS Computer Names	Screen Resolution	umber of Monitors
EWS1	1280x1024	2
EWS2	1280x1024	2

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Notes:

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Publication PROCES-QS001A-EN-P - October 2013

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